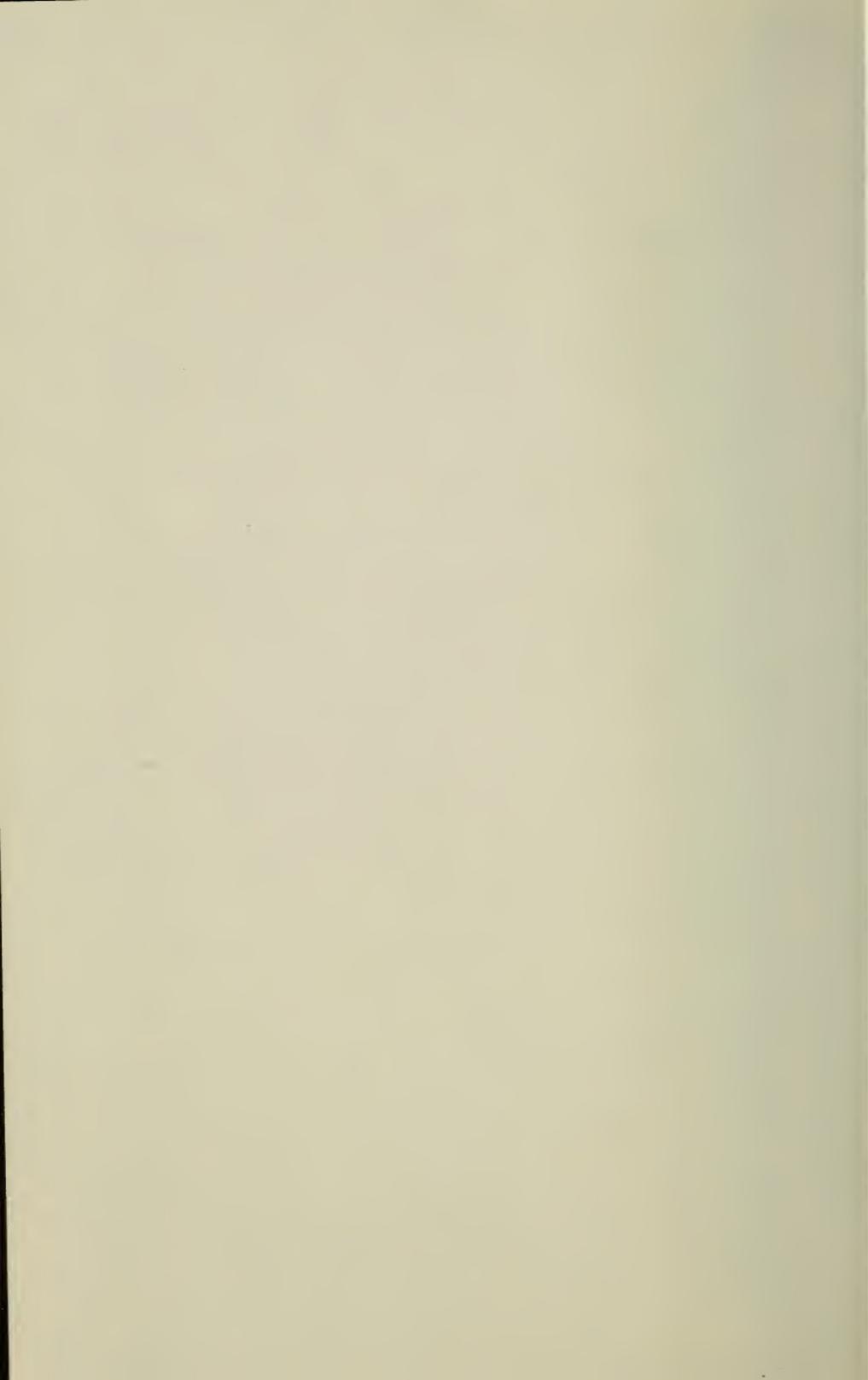


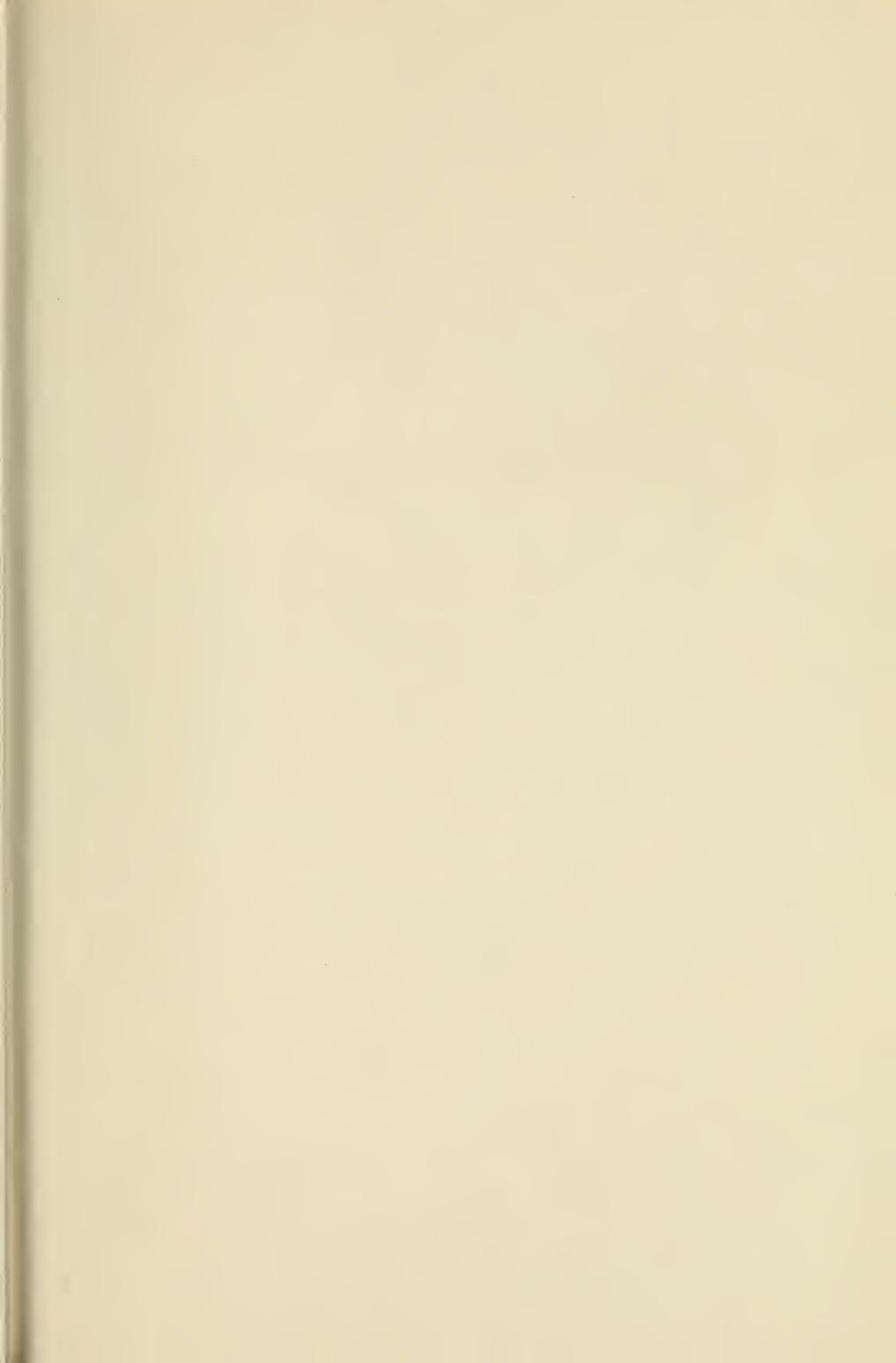
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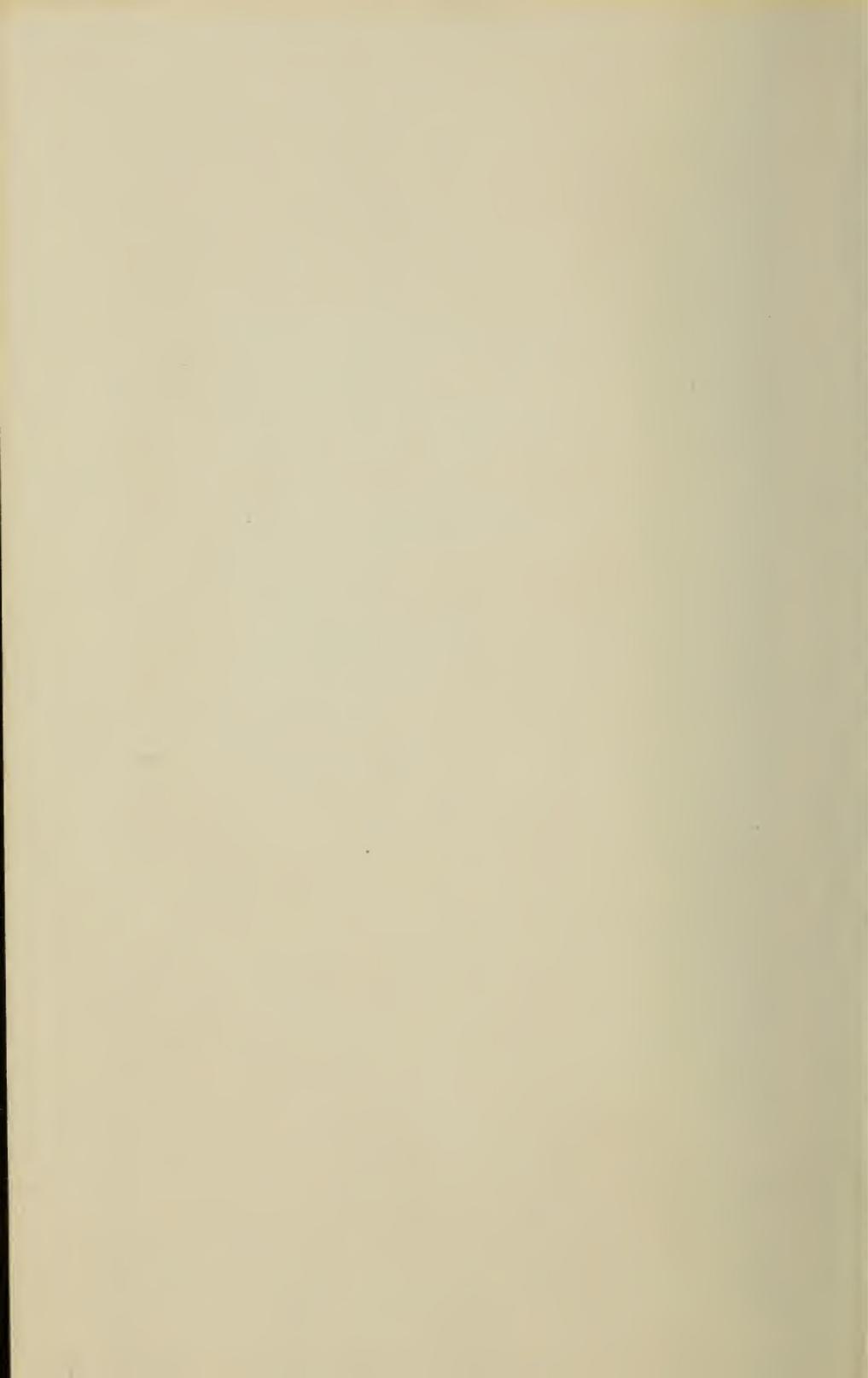
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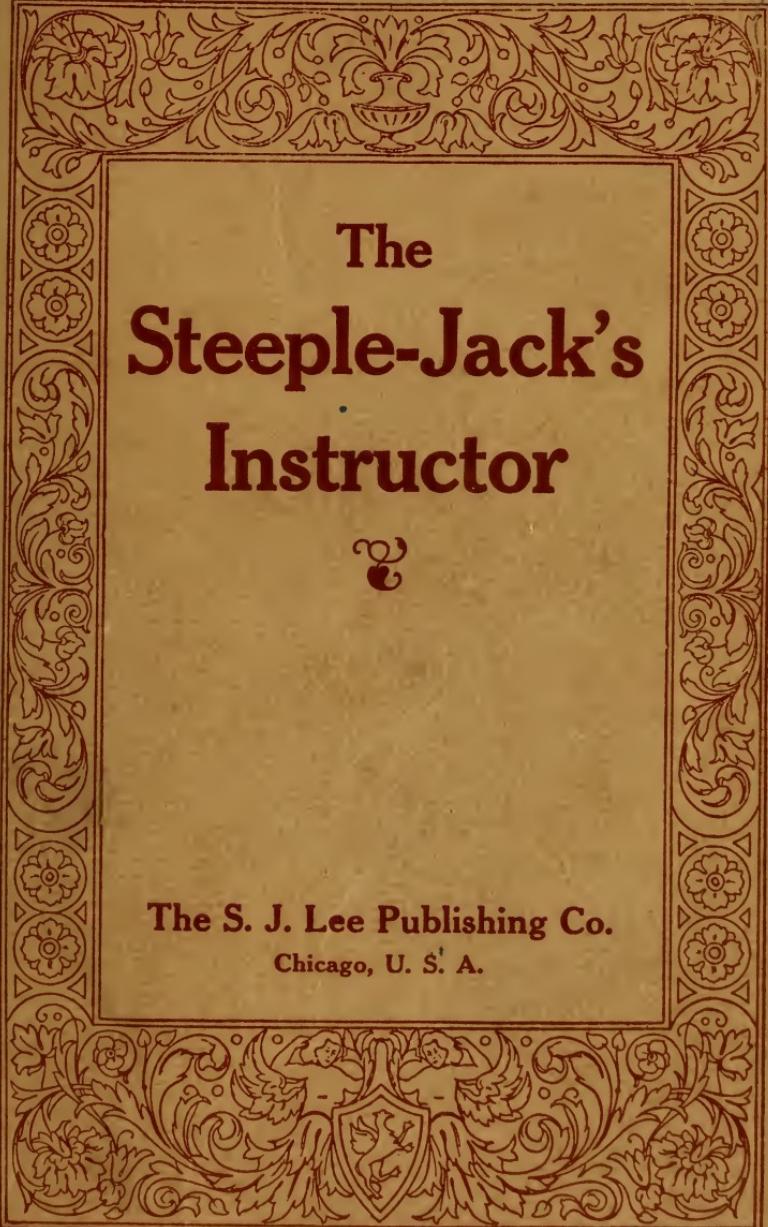








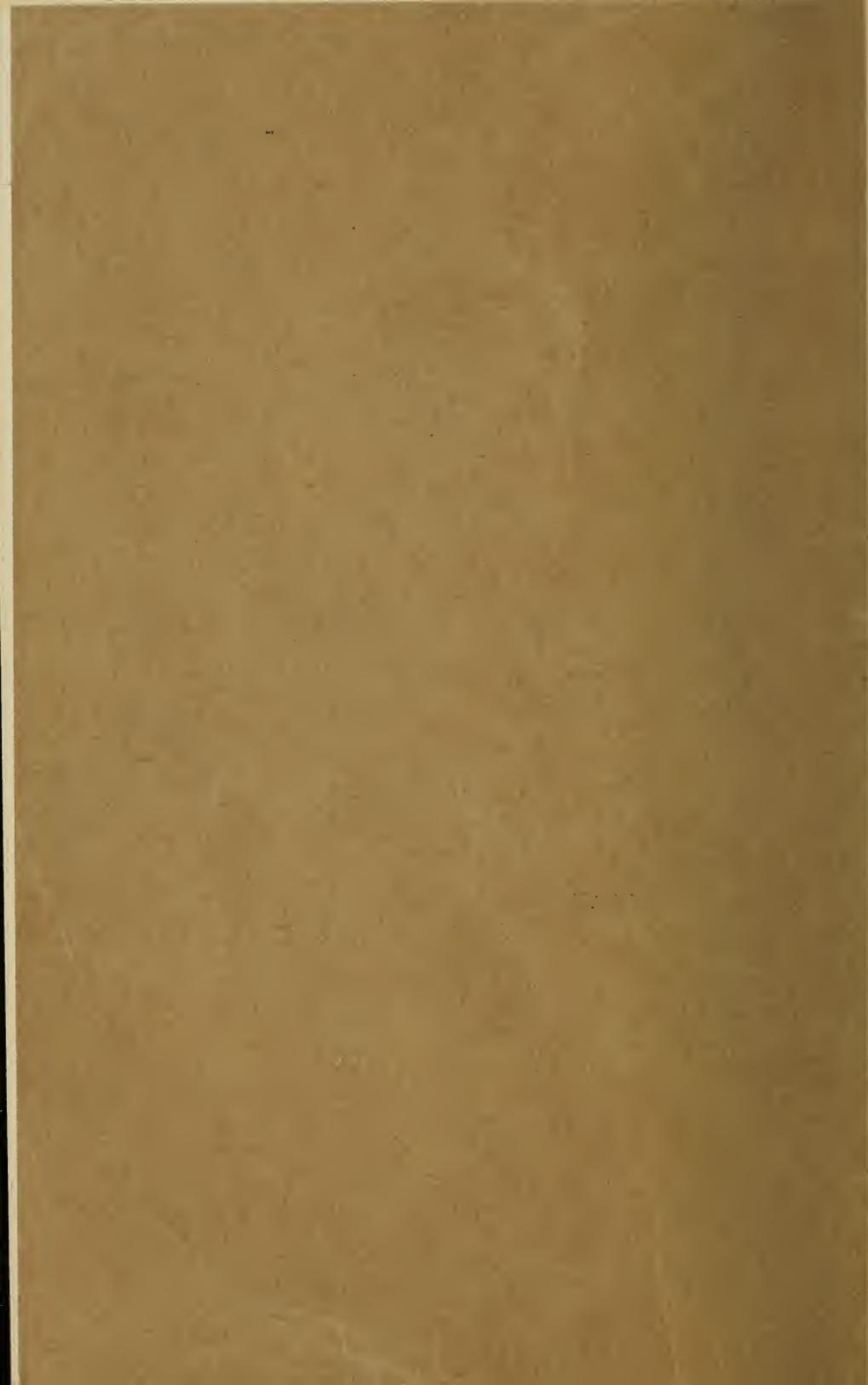




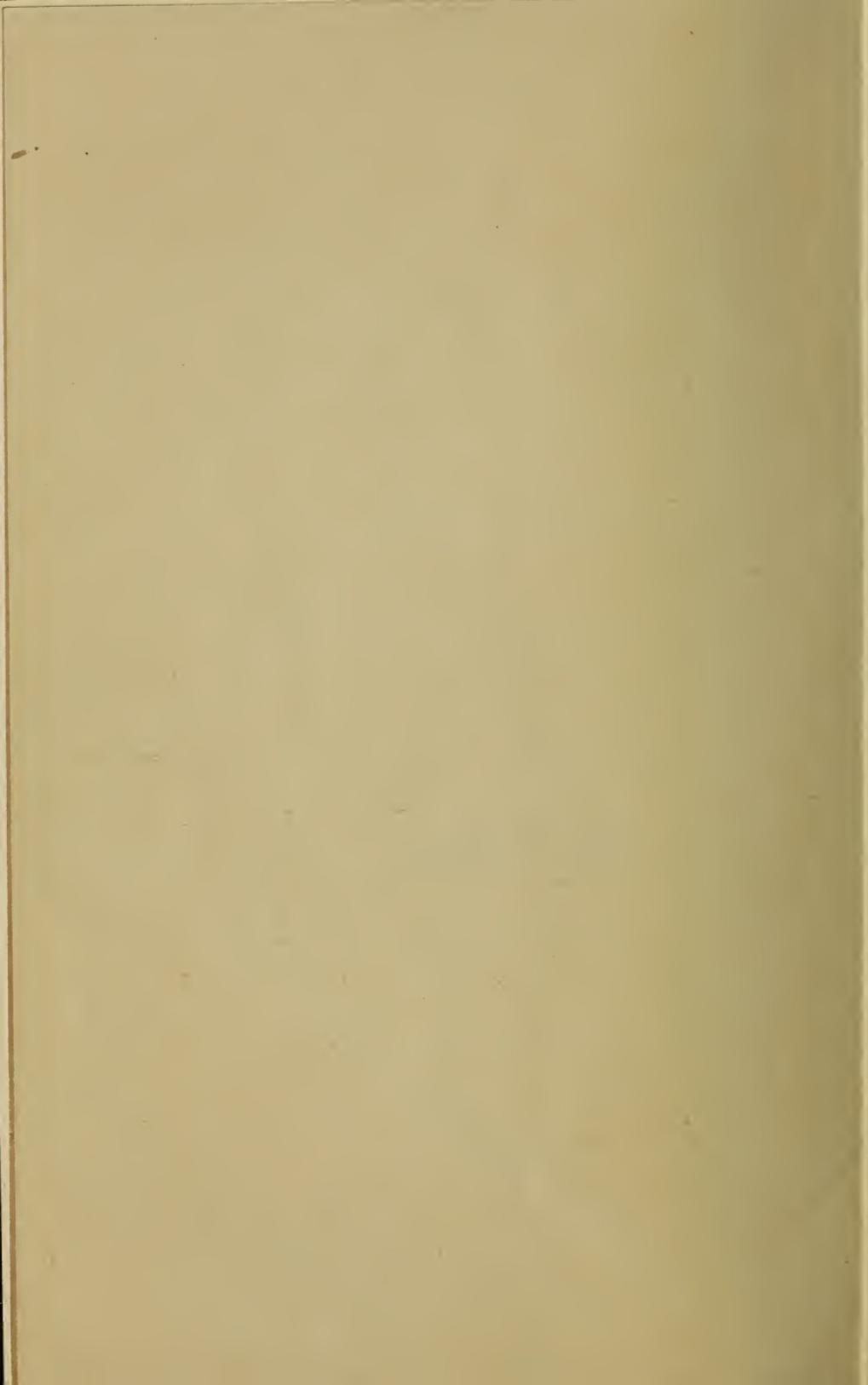
The  
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THE  
**STEEPLE - JACK'S  
INSTRUCTOR**



Showing the Modern Methods Used  
by Successful Steeple-Jacks

Price \$2.00

By CLARENCE JAMES MURRAY

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## How to Become a Steeple-Jack

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In this book I am placing before you the secrets of a trade I have followed for fourteen years. I have made as high as \$170 a day. It is a poor Steeple-Jack who cannot make at least \$25 a day. If you have the ability, the appearance, and can approach a business man, you need not worry about getting his work.

He is aware of the chances you are taking. He has work that must be done, and has an admiration for the man with nerve enough to accomplish what he would not undertake himself.

Steeple-Jacks are always in demand. When I speak of Steeple-Jacks, I refer to men who comprehend that a certain thing up in the air needs attention, whether it is the reaving of halyards on a flagpole, the adjustment of a cross on a steeple, the replacing of a guy wire on a stack, the repairing of the hands of a clock on a tower, or the mere painting of any of

these lofty objects which ordinary workmen are not courageous enough to attempt.

I know a great deal of this fascinating game, but I do not want to convey to you the thought that I know it ALL, for that is not the truth. Bear in mind the old adage: "We are never too old to learn."

I call this work a game, because it appeals to me as a great game, although it is difficult work. People will gather in crowds on the street to watch a Steeple-Jack at his perilous duty. I use the word "perilous" because that is what it would look like to the man on the sidewalk, but to one in the air it is just a trick to the trade, and he would not exchange places with the man who is so eagerly watching every move he makes for fear that he may make a wrong move.

While he is thus busily engaged watching you, the following questions run thru his mind: "How in the world did he ever get up there?" "How can he stay up there so long?" His thoughts finally

run something like this: "My, but he certainly is brave."

From my experience with Steeple-Jacks I am convinced that they never like to be called "brave," because stunts that are pulled are all in the game, and it is no more dangerous for a Steeple-Jack to climb to the top of a flagpole or smoke-stack than for the individual to ride in an elevator, a motor car or train, for when we consider the number of people who are trusting to the safety of the above mentioned conveyances, and the proportion of accidents in comparison to the number of Steeple-Jacks and the accidents in connection with this trade, the Steeple-Jacks are not at a disadvantage in respect to casualties.

It is to the credit of the Steeple-Jack, however, that he is less careless regarding the dangers of his profession than the thoughtless traveling public.

The Steeple-Jack considers it no more irksome to go out on a job than the book-keeper to go to his desk or a bank teller to enter his cage. The only difference

between the Steeple-Jack and the book-keeper or bank teller is in regard to working hours. The Steeple-Jack's hours range from two to four a day, while those of the tradesman are from six to ten hours a day. The Steeple-Jack, whose day comprises about four hours (often less and seldom more) makes **more** money in his **day** than the average man makes in a **week**.

As before stated, I have had considerable experience in the line about which I write, and I therefore feel safe in saying that no man is worthy of the title of Steeple-Jack unless he can make at least \$20 a day in days when he chooses to work less than the customary two to four hours.

From my past experiences I have come to the conclusion that "time is money," and therefore my advice to any man who entertains the idea of going into the great game of a Steeple-Jack is to always bear that slogan in mind and never perform for the audience which you will undoubtedly have watching you from the street.

Remember it is *your* time that is being taken up by the performance of whatever daring stunts you may be able to "show off," and no matter how large an audience you may have, there are no benefits derived therefrom.

The work of a Steeple-Jack has a great many assets besides that of being able to earn a great amount of money. With the exception of the money question, here are two that will appeal to every man: First, it is healthful work, because you are always in the open air. Second, you have no boss. You are your own boss and may come and go when you please. However, I would not advise any man who is following this work to assume too great an air of independence. We all concede that it helps to be a little independent at times, but always bear in mind that it is the privilege of the "other fellow" to assume an air of independence also, and, after all, YOU are dependent upon his work. By that I do not mean just one individual, but I am taking your trade as a whole.

In business we must give and take. Remember that.

The Steeple-Jack's work is ordinarily performed on smokestacks, flagpoles and church spires. You will agree with me that there are very few who follow this line of work. Just to prove this to you, allow me to ask you a question: "How many Steeple-Jacks do you know?" Perhaps the answer will be "One," "Two," or "Three," and, again, it may be "Not any." I have worked in this business in every large city in the United States and I can candidly say that I have had very little competition and, in a great many cities, not any.

Another important factor of this work is always to endeavor to please the man whose work you are doing and never to do cheap or skimpy work, for I have been convinced that cheap and skimpy workmanship gains nothing for you. However, on the other hand, if you put forth your best and succeed in pleasing the man who is to be considered, you can always count on a renewed order the following

year. REMEMBER: Satisfy the other fellow first and you cannot help but satisfy yourself.

---

## THE SMOKESTACK

---

To a Steeple-Jack any stack, regardless of whether it is composed of brick, steel or concrete, is a smokestack. Undoubtedly you have heard these stacks referred to as chimneys; nevertheless, from now on we will call them smokestacks.

Steel smokestacks are supported by guy wires. As a general rule two sets of guy wires support a steel stack, but I have often found a smokestack supported by three sets of guy wires. These guy wires consist of four wires to a set.

There is supposed to be a wire which runs through a sheave from the top of the stock to enable the stack man to rig up. This wire is flexible and is called a gimblet wire. Above all things, do not use this gimblet wire for ascending purposes; by that I mean in such a manner as to cause the weight of your body to rest upon this wire, as there is often great danger in an act of this kind.

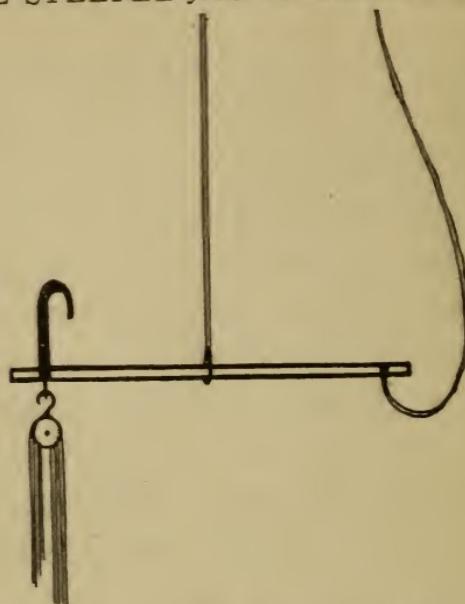
Read carefully the following few lines

and you will be convinced of the risk you are taking by endeavoring to ascend on the gimblet wire.

If the gimblet wire in question has been in that position for a year, in all probability it is rotten at the point where it runs through the hook at the top of the stack, and it would not take much weight to loosen it. So bear in mind, no matter how light or heavy in weight you may be, do not climb up on the gimblet wire.

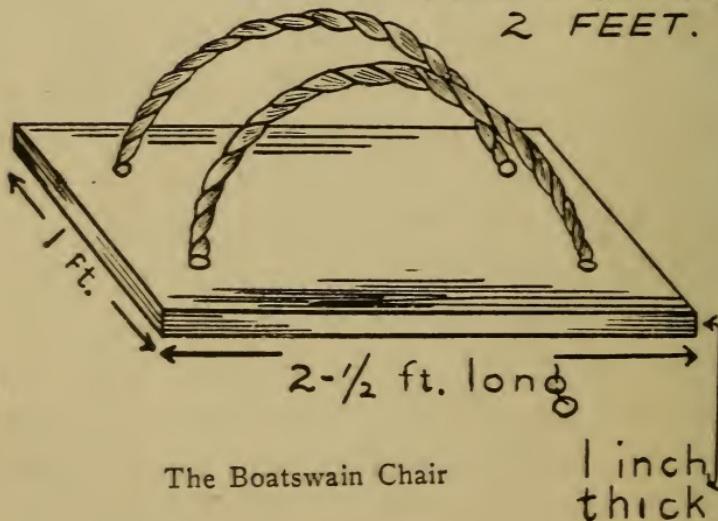
The following is a more simple and far more safe way of getting to the top:

First of all, get a board from six to nine feet in length and two to three inches in depth. Take one end of the gimblet wire and tie it to the end of your board, and fasten the other end of the wire to the board about three feet from the end. Take your stack hook—a hook of good  $\frac{5}{8}$ -inch steel. This hook should be about fourteen inches long, the hook being six inches long; a five-inch opening with an eye opening of about two inches, so that you can hook your block and tackle to it. Attach your stack hook to the board on



Ready to Pull the Rigging Up

LENGTH OF ROPE  
FROM BOARD  
2 FEET.



The Boatswain Chair

1 inch  
thick

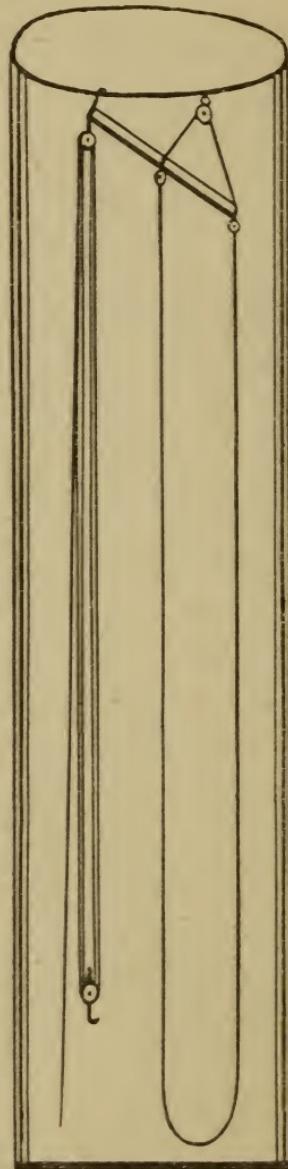
the side opposite to where your gimblet wire is fastened. Be sure the hook is turned towards the stack.

When this is done, pull on the wire; that will draw up your riggings, reaving your block and falls out to the size of the stack, so as to enable you to keep them from twisting with the gimblet wire. Now, then, should this board be weak and break while you have your riggings near the top, to prevent them from falling down and one end of the gimblet wire from running to the top, tie a heavy piece of cord to the end of the gimblet wire, running it to the other end of the wire, then fasten to your blocks.

This will prevent a hard day's work untangling your riggings from the guy wires, should the board break.

After drawing your rigging to the top, the board drawn tight up to the block on top of the stack, pull on the gimblet wire that is attached to the end of the board. This motion brings the end of your board bearing the hook and rigging up. In some cases, the stack being small in diam-

20 THE STEEPLE-JACK'S INSTRUCTOR



Tripping Riggings on  
Top of Stack

eter and the board being too long, the hook will stick far out from the stack, and with all hard efforts will not lodge it over the top. When you have this proposition to contend with, leave the stack about three or four inches on the gimblet wire that holds the board tight to the block on the stack. In some cases you have to drop the board as far as from two to three feet below the block, in order to get your hook in a position where it will settle over the top of the stack with the hooked part inside of the stack.

This is very important. Be sure that the hook is not only setting on top. This can be determined by twisting all four lines, making them one bundle; then by giving the lines a few switchings back and forth in all directions. When this is done and you have fully convinced yourself that the hook is properly over the top, then your next move is to start for the top.

If it is your first time in a boatswain chair, I would suggest that you sound

yourself first as to dizziness. This can very easily be done by the following method:

Stand along the side of the stack, throwing your head to one side and looking up, allowing your eyes to follow the stack and the clouds, shaking the head at different times. This brings on dizziness. Then stand erect, so as to clear your head. After getting into the boatswain chair, you place the fall line of your riggings—that is, the line with which you draw yourself up—between your legs. This enables you and your helper to pull more steadily together, and you get to the top much quicker.

I have noticed that the majority of stack men regard this as the most difficult part of the job—drawing to the top. Once up, the job is half done.

After you reach the top of the stack, the first thing to be done is to cut away the string that holds the stack hook to the board. You then lower the board to the ground. Still tied by the wire to the board for further use in case you want

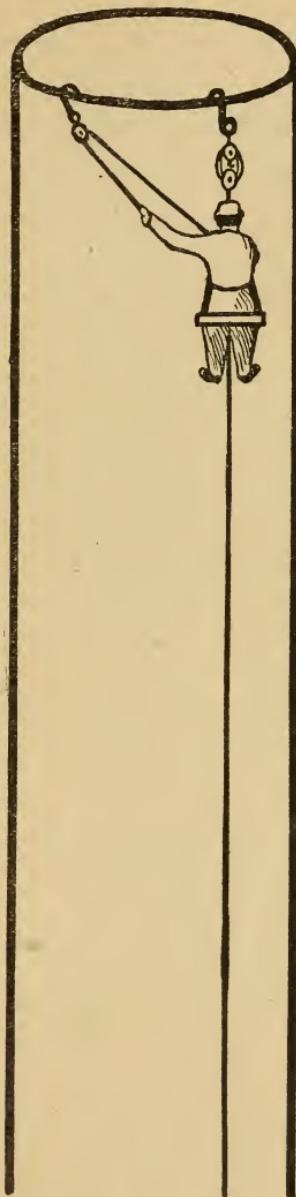
to trip off with it when the job is finished.

There is still an easier way, which I will explain later. Now we will say the work you are to do is paint. For your information I will say that oil paint is preferred by Steeple-Jacks for several reasons, some of which are: It is easy to apply in all kinds of weather; you are bound to get plenty of it in the face, and it is easier to wash off than tar. From my personal experience I have found that graphite and oil preserve a steel smoke-stack better than any other. You will come in contact with people who will differ with you as to this point; however, when you meet with a difficulty of this nature, give the man what he asks for. If he wants water, give him water; if he desires to have tar, give it to him, but if he wants something good, then suggest an oil paint. Graphite and oil—the preservable.

A great number of men with whom you deal will say: "I want tar on my stack." I have learned from my own personal experience that the answer which will in

nine cases out of ten take with the man with whom you are dealing is something on this order: "If you want tar, all right, but it will cost you **more** money." He will immediately confront you with a question similar to this: "Why is that?" Your reply should be: "If I put tar on your smokestack and come back next year for your work, you will refuse me, because tar blisters in places and rust forms under the blisters, which prevent the rust from being seen, and in a few years there are holes in the stack, whereas an oil paint wears off, showing the rust spots."

However, I am running away from my story. We will go back to the top of the stack. You look down, getting straight above a guy wire, reach over as far as you can and paint, leaving the space directly in front clear; drop down about ten feet, painting as you go; draw up to the top again, switching the stack hook over and directly above the next nearest guy wire. In order to accomplish this, take an extra hook similar to your stack hook and about seven feet of  $\frac{1}{2}$ -inch line. Place



Changing Positions on  
Top of Stack

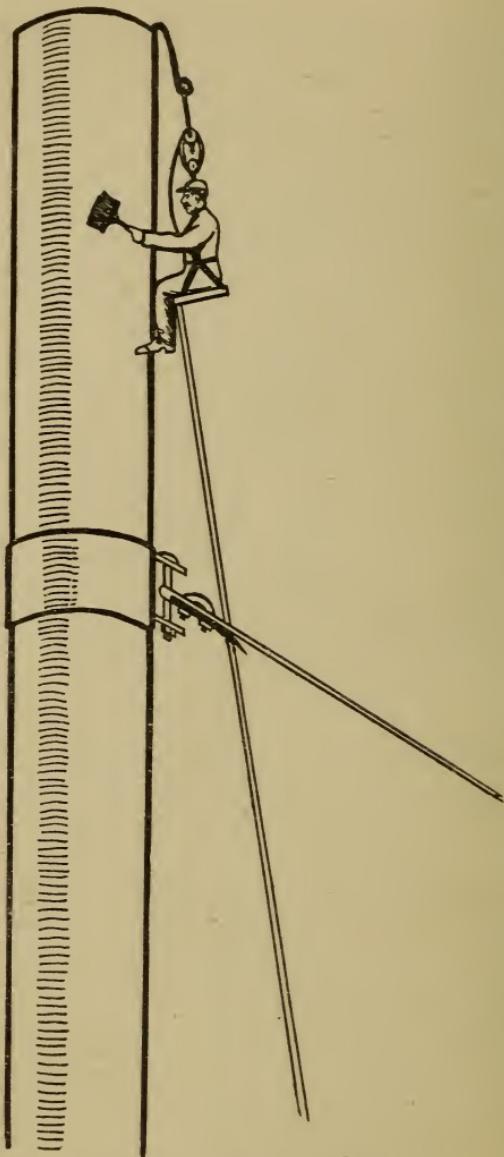
the extra hook over the top; tie the other end of the sling to the rope of your boatswain chair, making it good and secure. Then lower your weight from your rigging until it rests on the extra hook and sling. You then draw your regular stack hook up to the extra hook. When this is done you pull your weight again to your riggings and push the extra hook around. Do this until you get to the position you want, just above the next nearest guy wire, repeating the same as you did above the other guy wire, painting about ten feet down. When this is done, draw back to the top, using the same method to get over to the middle of the two spaces you have painted.

Then start to paint between the two spaces already completed. By so doing you are able to make a larger sweep on your way down. In order to make time on a stack it pays to have a helper on the ground, so as to take the end of the fall line or handy line and pull you around and by doing this also help to keep you in to the stack, which enables one to work

to a better advantage and much quicker. Remember, "Time is money," and there is lots of it to be made.

The opportunity is there. Tradesmen of all walks of life say: "Gee, business is dull in my trade. If I only had the opportunity that some people have." A Steeple-Jack should never say that, because there is always work to be done on a smokestack the year 'round. Don't be afraid to ask for it, and also a price. Yours is not a common trade. It takes brains, brawn and nerve, so don't permit your nerve to fail you when you are asking a price.

Another thing to be careful of is not to allow your rope to get caught and tangled in the end of a guy wire attached to the stack at the band. Should this happen, it may put you in a very hazardous position. Give this a glance now and then and, should such a thing happen, do not get excited and start tugging. The more you tug, the tighter it gets. Have someone to switch it out from the ground. It is possible to do this from the air.



Showing Falls Caught in  
Guy Wire

High wind is the Steeple-Jack's greatest enemy. It is only a fool who would attempt to rig a smokestack when the wind is blowing a gale; in fact, it is almost impossible to work in a high wind. More work can be accomplished in one-fifth of the time on a calm day. "Time is money," but always take time when your life is at stake. Always keep in mind the motto: "Safety First."

When tying up your riggings for the night, and it might be calm at the close of the day. Weather changes in a very few minutes at times. To safeguard against the rope from wearing against the stack and guy wires, walk out about fifteen feet from the stack, taking a piece of extra sling. Tie the sling to some object that is solid, throw two half-hitches with your fall line around the riggings just above the single block. When this is done, pass the sling which you have tied to some object through the hook of the block, making it fastened to the block. Then pull the slack out of your riggings with the fall line, at the same time keep-

ing the two half-hitches just above the block. Do not take up all the slack; leave some play in your lines, using your own judgment as to whether the lines will come in contact with the guy wires. The weather will shrink the line more or less.

---

## TO RIGG A STACK WITHOUT A GIMBLET WIRE

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When this proposition confronts you it may look to you like a job not worth fooling with. It can be done and, on some stacks, almost as quickly as with a gimblet wire.

There are a number of ways to rig without the aid of a gimblet, of which I will show you two of the quickest and most simple.

Look over your guy wires and pick out the most solid of the lot running to the top band. Make sure of its anchorage. There are supposed to be two clips at each end of a guy wire where it is connected to the turn-buckle, and at the band place the double block without the stack hook on the guy wire.

Tie a long and heavy line to the block. Take this line, passing it around all the guy wires with the exception of the one the block and falls are attached to. Then reave out your line to what you would figure the length of the stack to be.

You then take hold of the line that is around the guys, pulling on it and at the same time switching on your rigging. Unless the guy wire is slanting at about 45 degrees down, your rigging will slide up very easily.

With this system it is possible to get your rigging to within a very few feet of the top band, then tie off your tug line, be sure to some object that is good and solid. Remember your weight will be on that, and also your life.

SAFETY FIRST always. You only fall once. Use every safety device available. Remember this book only tells you how to rig, but it takes common sense while following these methods, and that is, take no chances where you think a thing will hold. Be sure it holds.

The first thing to do when getting into the boatswain chair is to see that your lines are not twisted. Have your helper walk out some fifteen or twenty feet from the stack. Take the fall line with you on your way up. The stack hook, extra

hook, sling string, small stick, hang line, and you are ready.

Quite a load going up! After placing the line between your legs and your helper stands away out, this helps to avoid the twisting of your line. While going up remember this: A very steady pull, the two pulling together. Long grabs and jerks are liable to prove disastrous, as it may cause the line to snap. Half-inch line has tremendous straining power; nevertheless, there are flaws in rope and rope also rots.

My first experience on a stack I remember I wanted to buy  $1\frac{1}{2}$ -inch line. Now wouldn't I have had a wonderful time trying to get that ton of rope to the top of a smokestack! Since then I have used  $\frac{3}{4}$ -inch rope, but that is too small. At any rate I had the correct idea of "Safety First" at the beginning. However,  $\frac{1}{2}$ -inch is the proper size for a job not over two hundred (200) feet high.

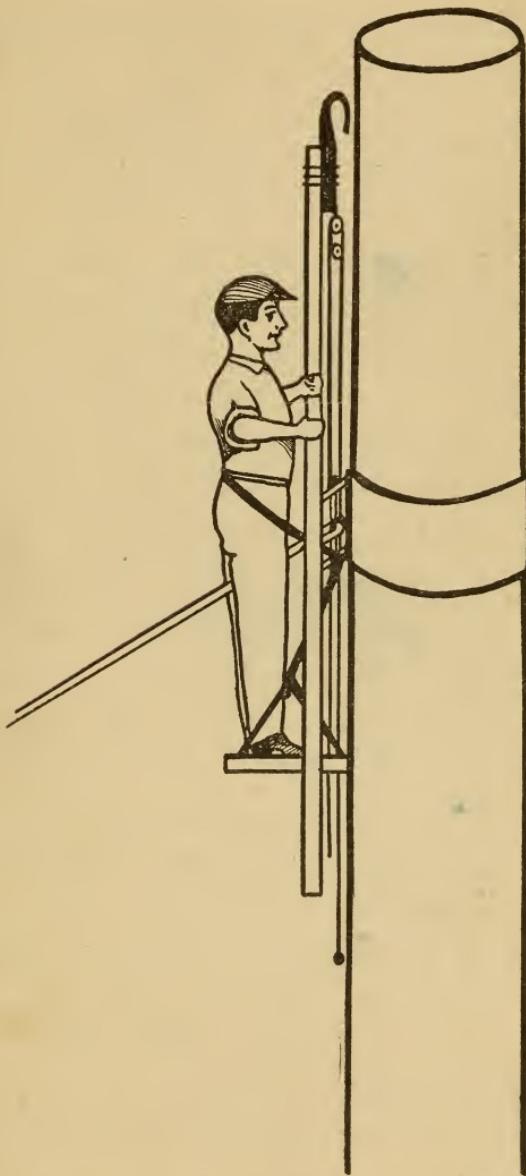
Now, when nearing the top guy wire, have your helper slack up, allowing you to continue the pull alone. When the two

blocks are together tie a safety line to the wire. Tie the extra hook to the stick and the end of the sling to your chair, then in the hook, passing the hook over and in the eye of the band. Pull the stick away from the hook. You then tie the stick to the block attached to the guy wire. After this is done, lower yourself until your weight rests on the line hooked in at the band.

Make sure when lifting the riggings away from the wire that they don't fall, leaving you up there in a great predicament. If this should happen, you will agree with me on that point.

Experience is a great teacher. I have had this experience: On lifting the block away from the wire, place it in the eye of the band; also draw yourself up close to the band. Untie the sling, tying it closer to the hook, then draw up a long pole—the size you figure you will need to reach the top with. Tie the stack hook to the pole; put the block and falls in the hook; push it to the top.

Now, not in all cases is this as easy to



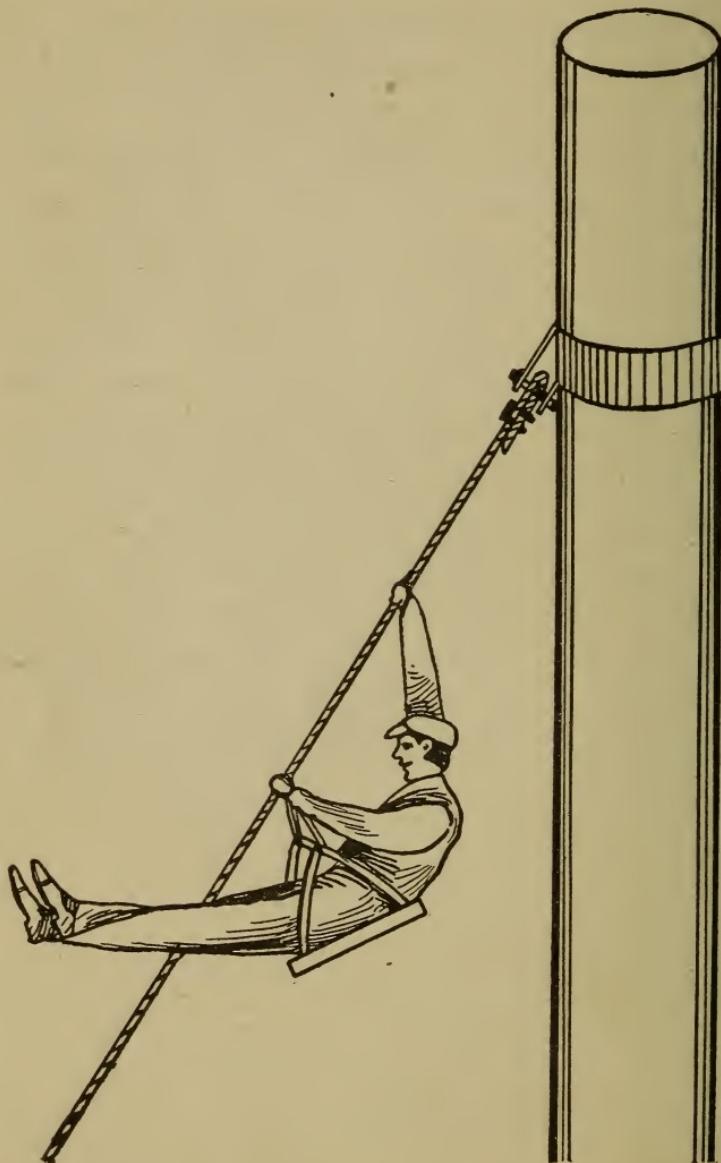
Poling to the Top of a Smokestack

do as to say. If the top is only fifteen or twenty feet from the band, it can be done without much effort, but should it be a reach of thirty or thirty-five feet, I would suggest the following method:

Tie a hook to the pole just so it will stay on. A light hook is required for this. Place your handy line through the eye of the hook. Tie the handy line end down about eight feet from the top of the pole, then lash yourself to the band, pull yourself up and stand in the chair, throwing one leg over the guy wire. Make yourself good and solid, spread your feet out in the chair. Do not have them together. This sometimes prevents the chair from sliding to one side. Above all remember never to let your riggings get away from you. You are in a mighty tiresome position. Always be sure to have a handy line with you in making a reach of thirty or thirty-five feet. Figure your pole, which is only two by two or so, is easily broken in a little wind. I have had poles break eight or ten times before reaching the top of a stack.

Now, in pushing the pole up with a handy line, always wait until the wind ceases for a second, then up with it. This has to be done quickly. With the pole leaning against the stack once over the top, pull the pole away from the light hook, lower the pole until the top end is at the band. Tie on the hook and block, then, with the handy line now over the top, pull on it and at the same time push on the pole with a steady push and pull. The rest is very simple. After this is accomplished, undo yourself from the band, lowering yourself into the boatswain chair. Hook up the riggings to the chair, start for the top, cut away the pole, lower it down and start your work.

---



Climbing Guy Wire with Slings and Chair

## HOW TO CHANGE THE RIGGINGS

---

When completing one side of a stack and in order to get the tackle to another position on the stack, twist the rope, making it all in one; then leave a little slack to make a snake whip movement towards the top, and you will have the satisfaction of seeing your rigging move around on the top. If the wind is blowing hard, perhaps you will have to do several of the switching movements before getting the hook to start to move. Then take the line around the guy wire and you are ready for the next set.

---

## STEEL STACKS WITH BRICK LINING

---

You will encounter a little difficulty in the shifting of your riggings from the ground when you are working on steel stacks with brick linings. In fact, you will save time by not trying to shift from the ground. If the brick extends all the way to the top, you will have to have a hook large enough to spread over the steel and brick.

It is wise to go to the top, whether you have to tow it over fresh paint or not. In doing this you have your helper walk out some fifteen or twenty feet. You then place your legs around the fall line; after this is done both you and your helper pull together.

In this movement you are going up backwards with your back towards the stack, until about half way up; then turn with your face towards the stack. Daub the tips of your shoes with paint; this helps to cover up the prints of your shoes on the fresh paint. If you do not comply

with this rule, the print of your shoes on the fresh paint will look from the ground as if those spots had never been painted, and would tend to leave a bad impression as to your workmanship with the man for whom you are doing this work. Neat and impressive work draws more returns. On reaching the top an equal size hook is required, as aforesaid, with the sling, afterward having your helper take the fall line over the guy wires and you are ready to do another set.

---

## SMOKESTACKS WITH LADDERS

---

There is no use of going into detail about rigging a stack that has a ladder on it. This can be answered in a very few words: Walk up the ladder and hook the rigging over the top. But there is this much about it—Watch your step! These ladders after a few years become very rusty and the bolts where connected from the inside are sometimes eaten away by the gas from the coal, and just a little weight on them might cause the handles to give way. So always remember to be very careful when climbing a smokestack that has a ladder connected to it.

---

## STEEL STACKS DECAY AT BAND

---

You will notice that as a general rule steel stacks commence to weaken at the first half-dozen sections from the top downward, or at the band. The rain hitting the in- and outside from the top, and lying around the band, is causing the rust to form more quickly than on any other part of the stack. This accounts for the aforesaid parts weakening the quickest.

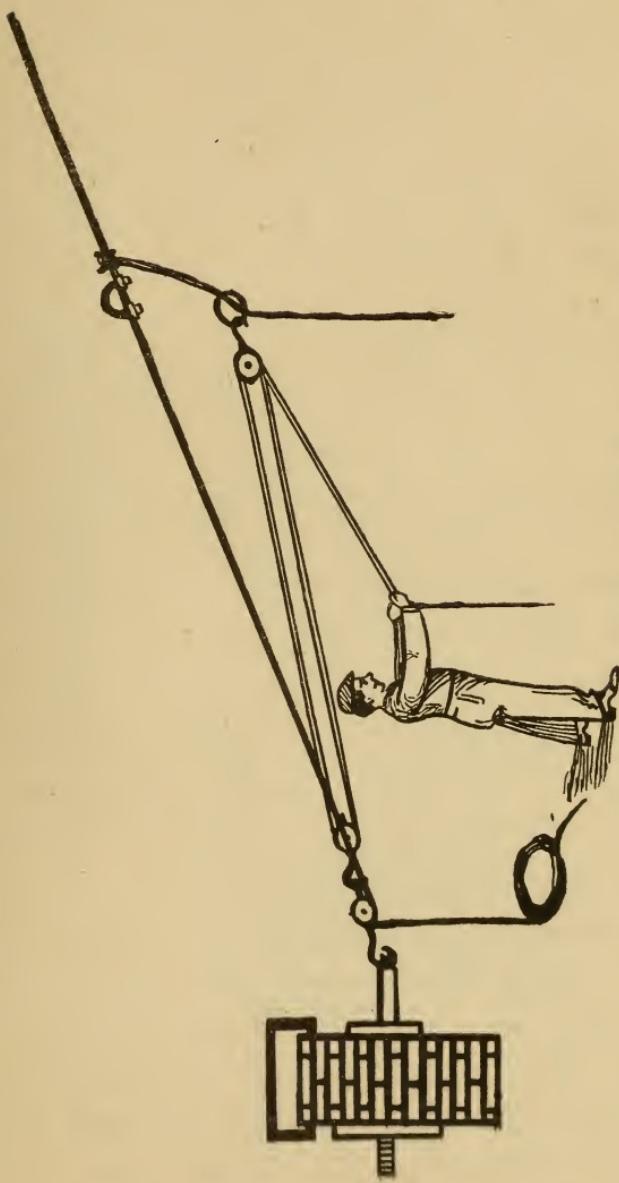
It is always wise to sound a stack at the top and band so as to determine whether it will stand much tugging or bouncing upon. If it looks weak and you make up your mind that you will go through with what you are doing, I would suggest that you do all the pulling and take just what tools you can possibly get along with.

## REGUYING

---

To reguy a smokestack it is necessary to have these parts before the job is really called complete: Turn-buckles for the bottom ends of the guys and clips for both ends. Although you can guy a smokestack without these articles, it is best to have them. Without the aid of the turn-buckle to draw the slack out of the guy wires, a device like this can be used: Lash the guy wire with a sling, using two half-hitches so as to grip the wire. Tie a bowline knot at the opposite end so as to enable you to attach the block and fall, placing the opposite block in the eye of the guy wire anchor, then by pulling on the fall line, this takes the slack from the wire, even with the turn-buckles. Sometime you will have to resort to this method in order to take up the loose slack.

When guying a stack the first thing to do is to place the spool that holds the wire between two boxes of equal size. Take your handy line and a small single

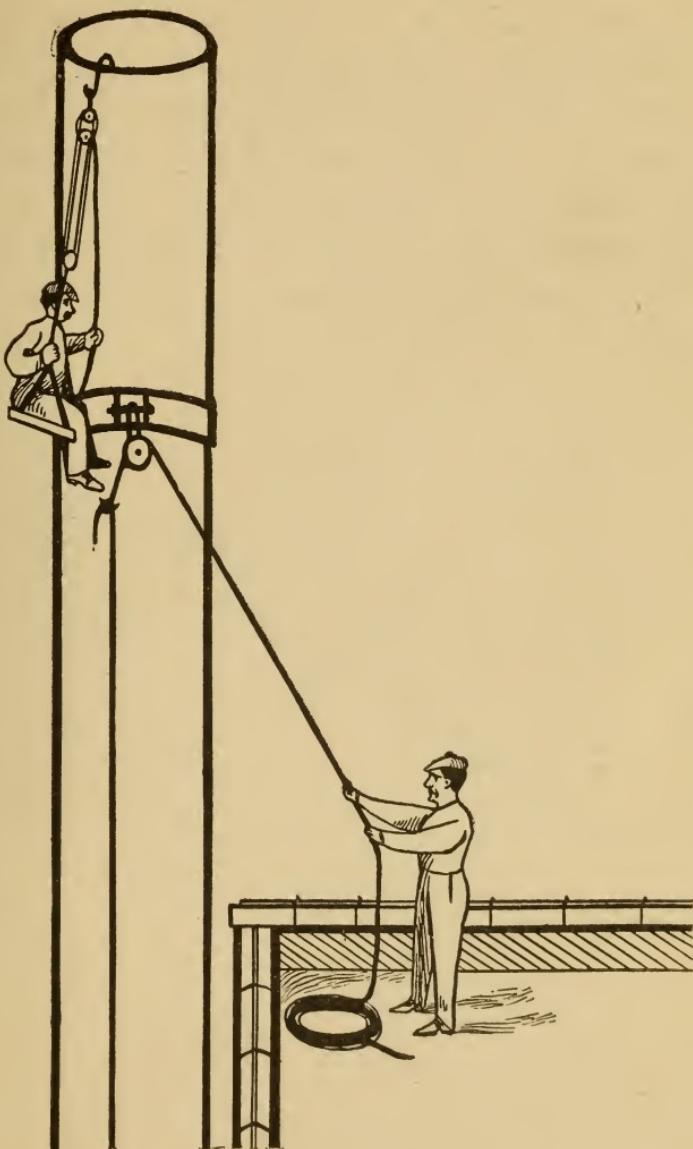


Drawing Guy Wire Tight with Block and Falls

block when going up to attach the guys; hook this single block to the eye of the band at the position where you are to work; have your helper tie the handy line about three feet down from the end of the guy wire, and then bend the wire double. You then have your helper do the pulling up of the guy wire. Should you do the pulling while sitting in the chair, you would soon notice the strain from it in the stomach. As you have nothing under the feet to press the strain there, it really falls to the stomach to receive all the hard work. Always leave some slack to the guy wire.

A stack must vibrate to a certain extent, therefore if the guy wires are drawn as tight as they possibly can be, the chances are the result would be a broken wire or an anchor giving way.

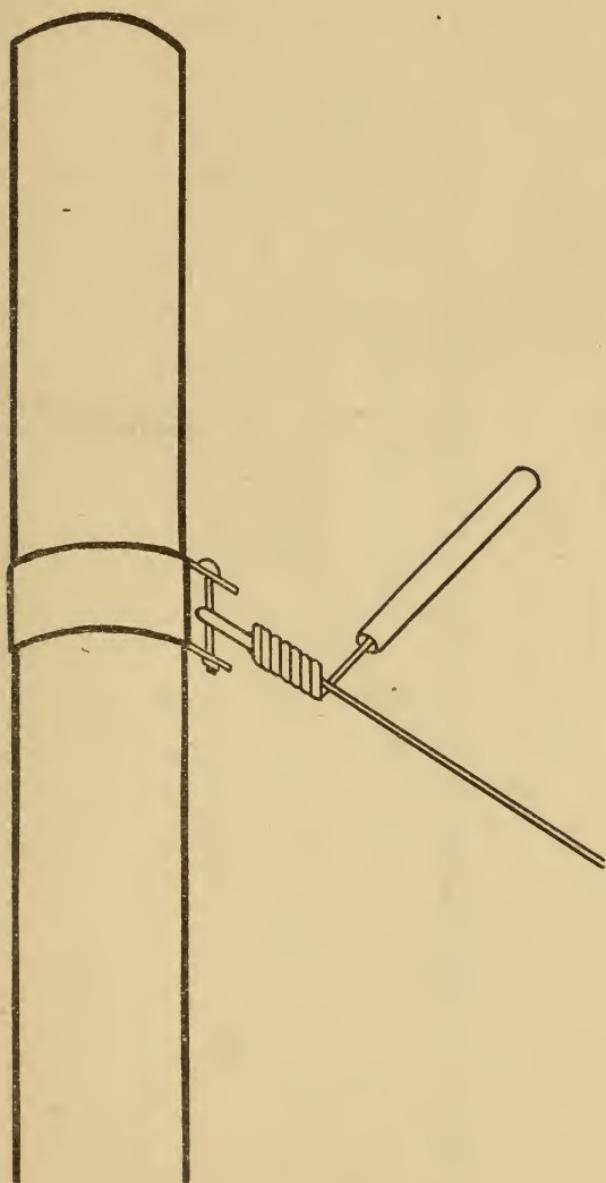
In using clips to fasten the wire at both ends, they should be a size larger than the guy wire, and when clips are not available, allow about two feet over. After passing guy wires through the eye of the band or the eye of the anchor, take a piece



Helper Pulling Guy Wire Up to Stack Band

of gas pipe of a size that will slip down over the guy wire some foot or a foot and a half, then twist the end of the guy wire with the gas pipe around the other part of wire that extends down. This is a wonderful way to fasten the wire to the stack, and will last as long as the stack will.

---



Turning Guy Wire with Steel Pipe

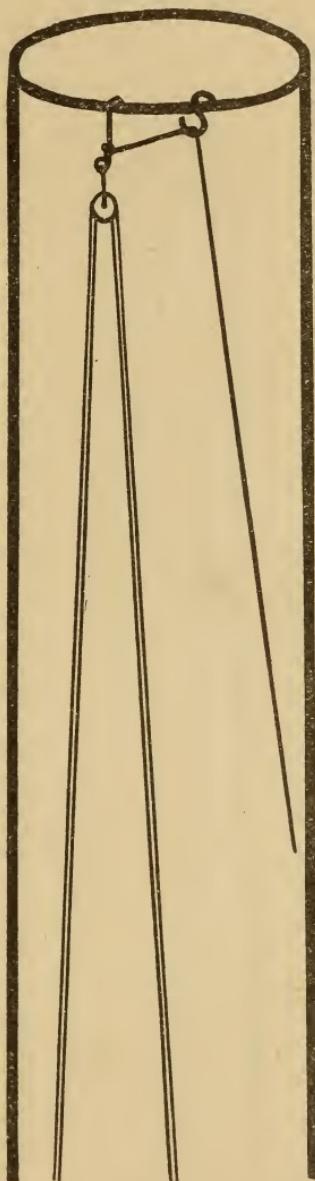
## TRIPPING THE RIGGINGS

---

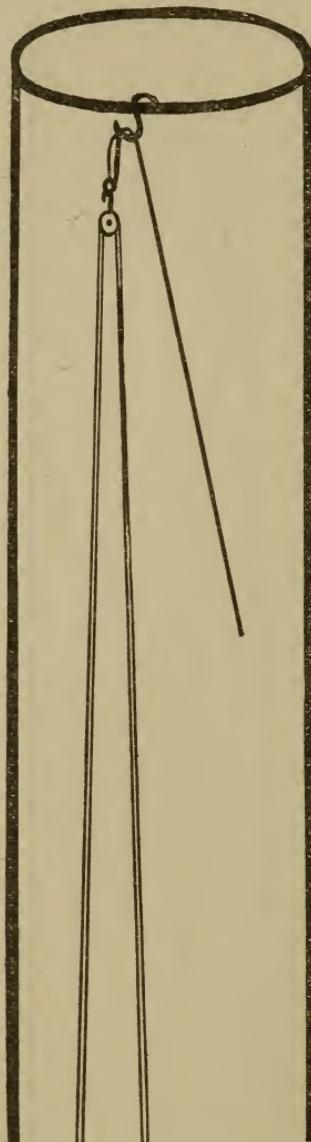
Tripping the riggings off the stack after the job is completed takes only the work of a few minutes. See to it before making the last trip up that you have that necessary appliance with which to save you a few unnecessary trips up and down.

Take a small steel bar about  $\frac{1}{4}$ -inch in size and bend it into the shape of the letter S. Judge the diameter of the band on top of the stack; make the hook so it will fit snugly on top. This hook should not be over five inches long. After placing the trip hook on the stack, take your handy line, lay it on the hook, tie the end of your line in the eye of your stack hook, then tie up about two inches above the eye in several places. The last two tie-offs will prevent the stack hook from falling to one side.

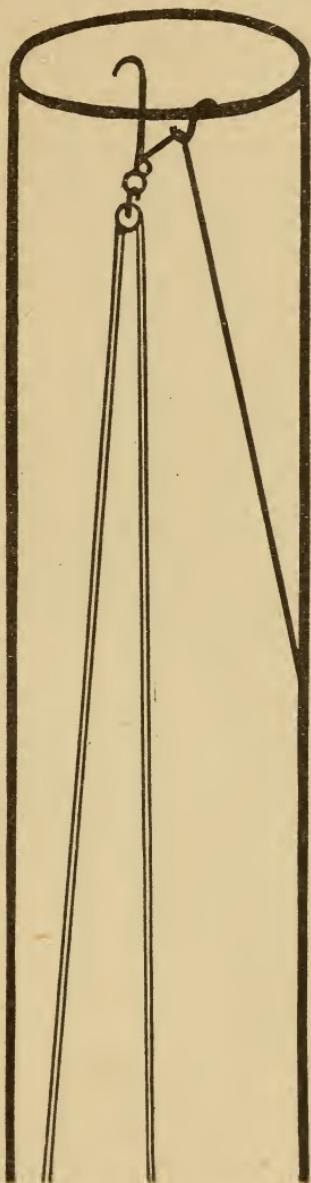
After leaving the stack, have your helper tie the handy line away from the stack. This flopping back and forth will annoy you while at work. After you have



Handy Line Attached from S Hook to Stack Hook



Results of Turning Hook  
in Wrong Direction



Hook Turned in Proper  
Direction for Tripping

finished and are ready to trip, twist the rigging until it is twisted all the way to the top. In doing this twist the rope so that the stack hook will turn out and away from the trip hook. This is important. Leave slack on the riggings at the same time. Do not let it untwist. Then take the trip line, pull steady on it, until you see the stack hook raise up and over the stack. Then lower on the trip line until you see the stack hook is off and below the top of the stack. Then let go of the riggings so they will untwist; lower away; untie the handy line from the block hook; then pull one end of the handy line to the top. It will go through the small S up there and fall to the ground, leaving the small S hook on top of the stack.

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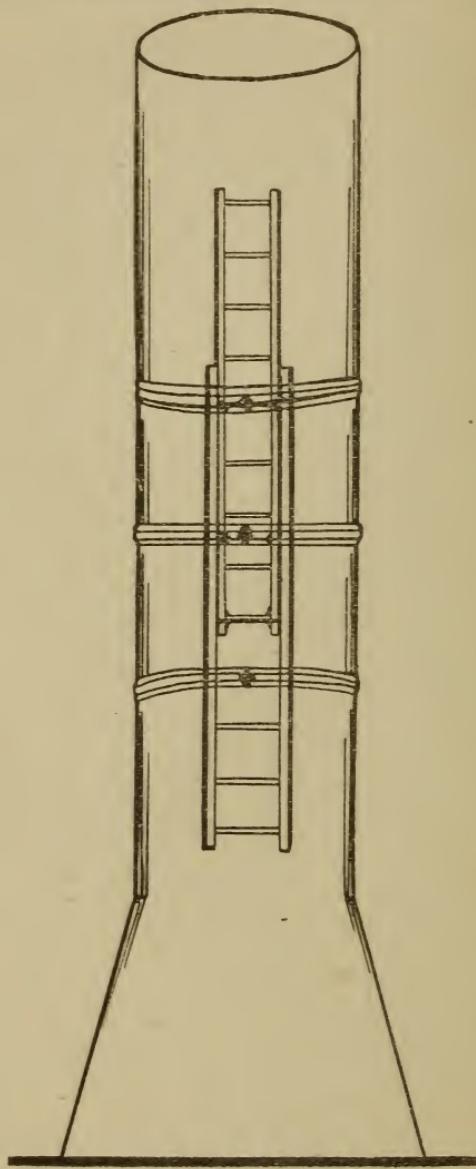
## SELF-SUPPORTERS

---

Steel smokestacks are generally supported by guy wires, although there are some steel stacks without guy wires, which are called self-supporters.

Self-supporters taper at the base and have an extra heavy foundation and a ladder to enable you to climb to the top, although in my travels I have come in contact with one self-supporter that had neither ladder nor gimblet wire. Fortunately this self-supporter was very small in diameter.

In order to make the top of this particular stack I had to rely on an extension ladder, working my way up by degrees; first lashing the ladder to the stack, extending it as far as safety would permit, then lashing the stack again with an extra large sling about  $\frac{3}{4}$ -inch, making a bowline knot and with a sling to both sides of the ladder I used the block and fall, pulling the bottom part of the ladder up as far as possible, lashing off again, then pushing the top part up.



Ladder Lashed to Self-Supporting Stack

After making the lower half of the extension ladder solid at the top and bottom so as not to permit it to sway to either side, climb the top half of the ladder, lashing the stack again, and repeat as before. Guy wires have to be replaced from time to time, as these wires rust and fall down, leaving the stack to the mercy of the winds, if not attended to before they become so badly decayed.

As stated before, stacks that are supported by guy wires have from one to three sets, and generally four wires to a set. A  $\frac{1}{2}$ -inch galvanized wire is sufficient for any stack, although some people prefer a larger size wire for double safety.

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## KNOTS

---

Knots are a very important factor in the Steeple-Jack's life. Only knots that have been properly tested should be used. Many a terrible disaster has been caused by the use of a knot which was quickly invented by a man and never tested. Avoid such accidents by learning to tie knots in the proper fashion.

Slip knots are bothersome as well as dangerous to both the person working in the air and the people walking underneath. There are very few knots that are useful to the Steeple-Jack, and it is well for every man following this trade to learn to make these few knots well and thereby avoid delay when in need.

For instance, if you were on the top of a stack and saw a part of your rigging that did not look any too safe, or you were near a band and saw your hook was only sitting on top of the stack and not inside, as it should be. A sling and the knowledge of tying knots properly is

required. Practice until you are thoroughly familiar with this important part of your trade.

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## SQUARE KNOT

As I said before, slippery knots are bothersome in many cases. When you use the slip knot the only way to get it out is to cut the line; then you are disfiguring the line or shortening it.

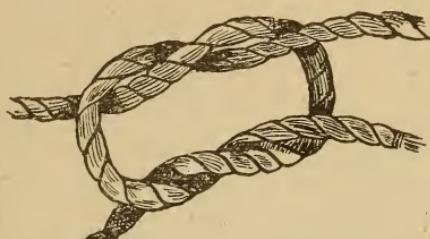
The square knot and the bow-line knot are the ones most commonly used.

In tying a square knot take the ends of the rope, passing the left end over and under the right, and then take the right end and pass it over and under the left.

In trying to make the square knot there often forms what is known to line men as "the granny," which is useless for any hazardous purpose. Follow the instructions of right over and left over and you can't go wrong in making the best-liked knot of all—the SQUARE KNOT.

In using the square knot while working in the chair, make two half hitches in each end of the line. This is used to insure double safety.

When using the square knot for the purpose of adding more line to the riggings, tie both ends of the lines (as illustrated on page 61).



Square Knot



Granny Knot



Square Knot Sized  
at Both Ends

## BOW-LINE

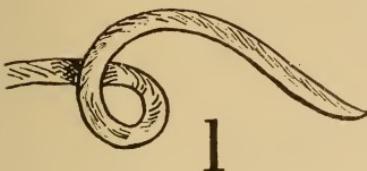
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A more efficient knot than the bow-line knot was never known. This knot is used more than any five knots put together in the Steeple Jack's work.

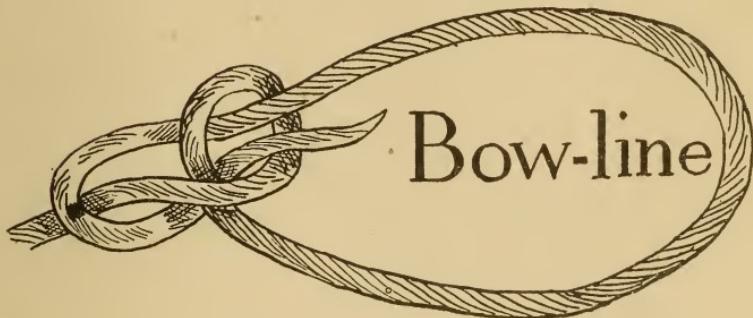
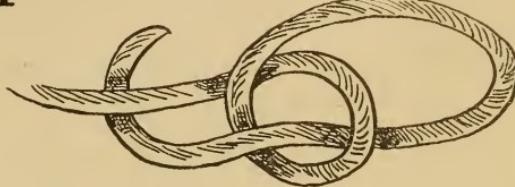
The bow-line knot is mostly favored in climbing a flagstaff, when making the stirrup to climb, and in many ways for the smokestack.

In making the bow-line knot follow the illustrations according to numbers. In No. 1 the rope is formed in a bight; pass No. 1 through the bight under then over and then under, as illustrated in No. 2; then over and down through the bight as illustrated in Nos. 3 and 4. Draw tight as illustrated on page 63.

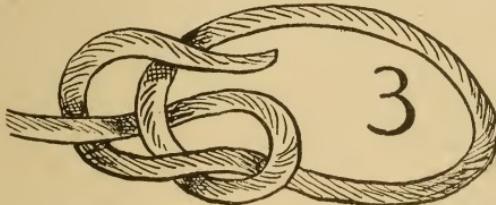
As I said before, the bow-line knot is a very useful knot on the flagpole. By placing the sling around the pole, passing the end through the eye, then make your bow-line knot, leaving the loop for the size of your foot so as to slip your foot in.



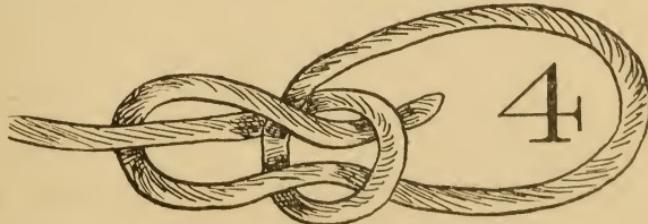
2



3



4



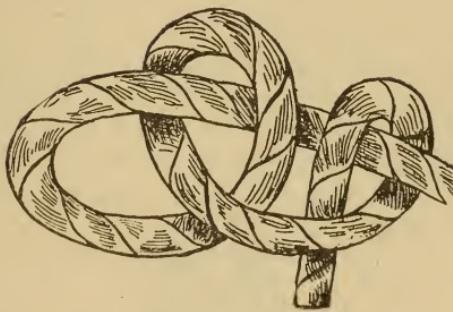
How to Tie the Bow-line Knot

## HALF HITCHES

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The half hitch is used very frequently by the Steeple Jack, especially in tying off the riggings for the night or pulling up a pole or paint. In making the half hitches, pass the end around the object you are tying, then over and around, standing part between the object and itself; then under and around the standing parts and between own loop and the one first formed. It is no more difficult and takes no longer to make this knot than it does for you to count three. Illustrations on page 65.

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Half Hitch

## THE BLACK WALL

The Black Wall, known by many as the chair hitch, is used by the Steeple Jack while working in the chair up or down; stopping to rest or work, reach through the rope of your chair, grab the fall line by the right hand, pulling it through between yourself and the rope of your chair. At the same movement turning the rope from left to right making a loop in this movement, reach up and set it on the hook of the block at the chair; while doing this reach with the left hand and hold your four lines tight together. This prevents you from going down while making the Black Wall or chair hitch, as it is commonly known.



Black Wall Knot

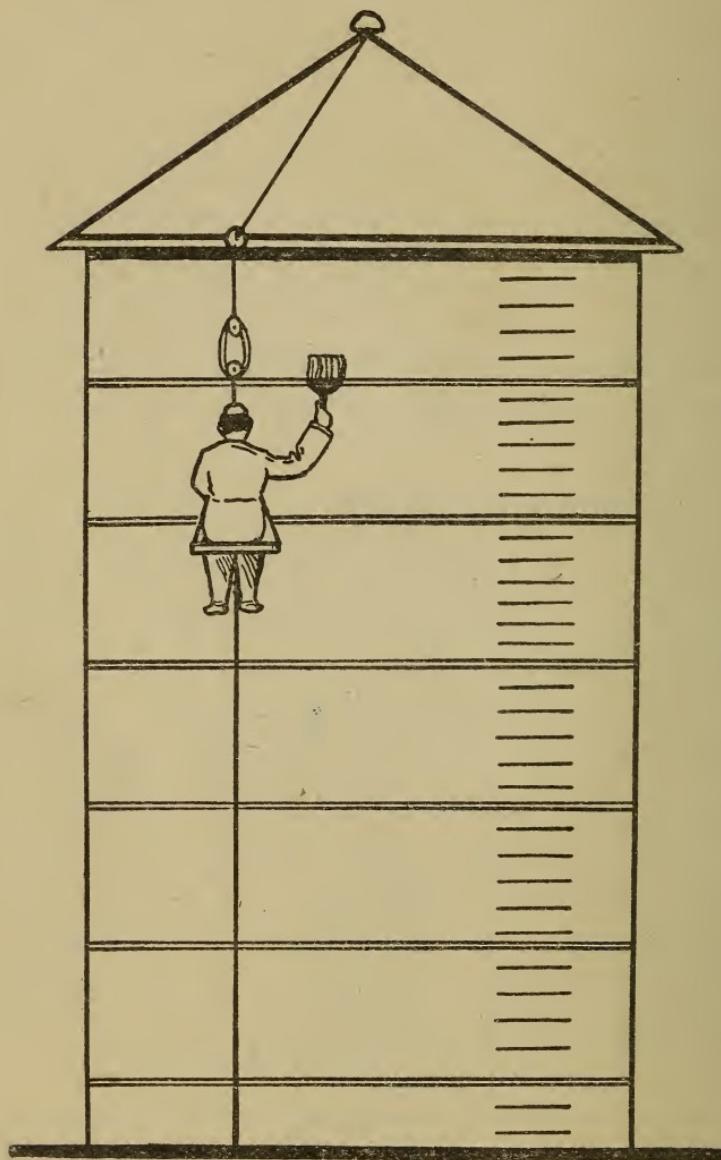
## TANKS, TOWERS AND STAND- PIPES

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Water tanks, water towers or water standpipes are an easy matter to work on as far as the rigging is concerned, but not as much money is to be made as on smokestacks, church steeples and flagpoles. Nevertheless, they are worth soliciting.

Take, for instance, a water tank. A water tank consists of only the tank itself sitting on a flat roof or ground. Water tanks vary in size.

We will say a tank twelve (12) feet in diameter, fifteen (15) feet in height, with very little rust scales. This tank can be painted in about three hours and requires no more than three and one-half gallons of oil paint. I have received as high as Sixty (\$60.00) Dollars for a few hours' work on tanks of this kind.



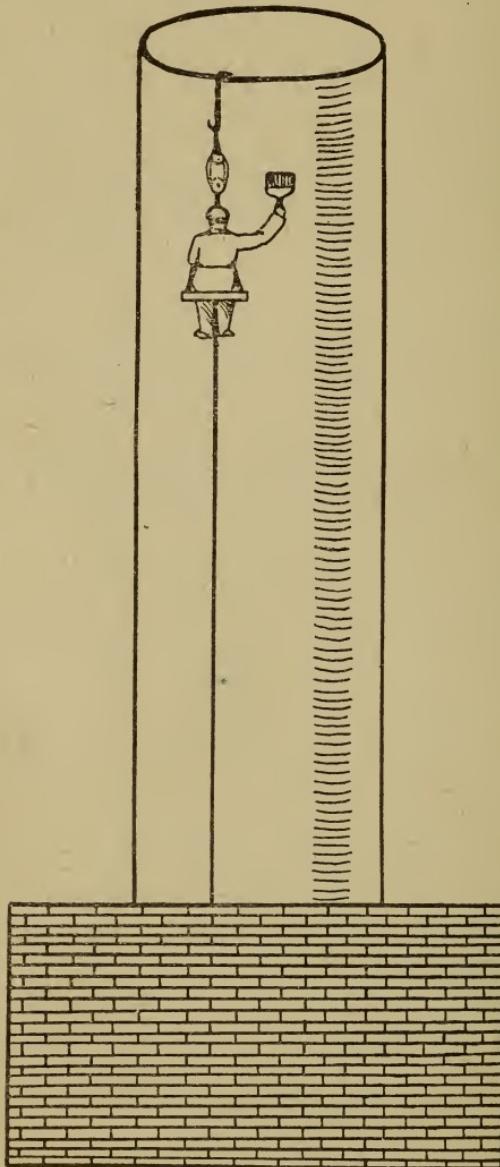
Painting Water Tank

Standpipes are more on the order of smokestacks. Some have brick foundations running up a third of the way and again others have brick half of the way up and the other half steel, while you find some that are all steel from the bottom to the top.

All standpipes have ladders going to the top, therefore it is an easy matter to rig such standpipes with a set of falls and work in a boatswain chair.

For an example we will take a standpipe that is made of steel and that is one hundred and twenty-five (125) feet in height, twelve (12) feet in diameter. A standpipe of this kind would require about eighteen (18) gallons of oil paint. It would take one man working in a boatswain chair about three and one-half ( $3\frac{1}{2}$ ) days. It is always safe to ask about \$250.00 for a job of this nature.

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Painting Standpipe

## WATER TOWERS

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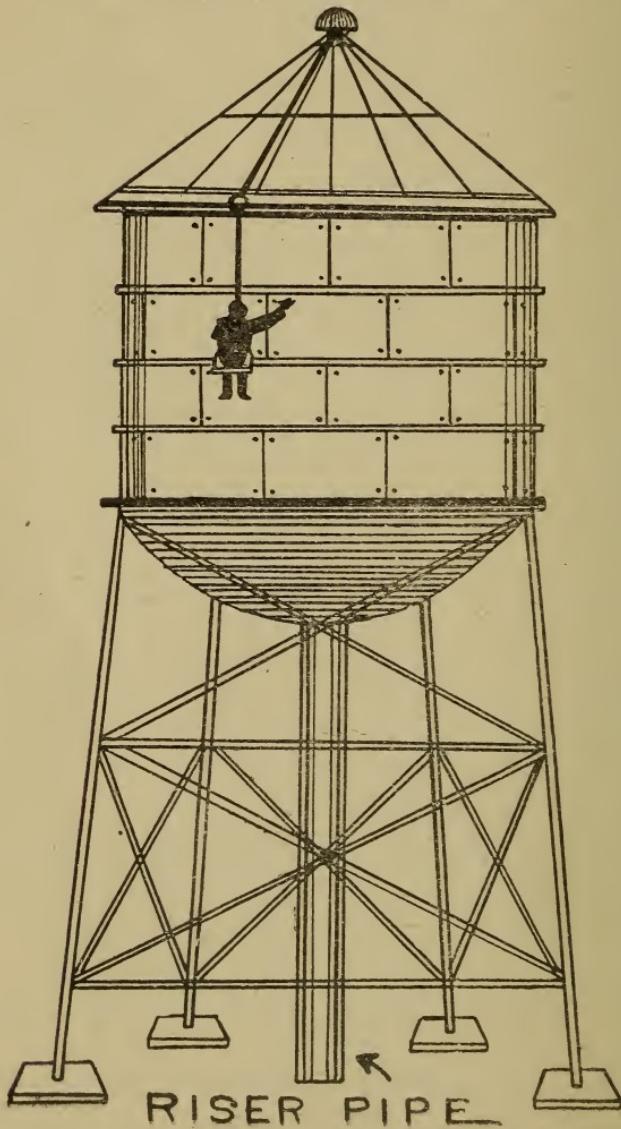
A chair man considers a water tower more difficult to work on than the two mentioned previously.

The majority of water towers are supported by four stiff legs. Some have more and very few less. You will find very few water towers that stand less than one hundred and fifty (150) feet high.

To paint a water tower it is best to start on the tank proper, tying a rope over the ball or pole that extends from the top of the tank, allowing enough rope so that it will extend to the edge of the roof of the tank, then attach the block and falls to same. Take the other end of the rope, which is attached to the top of the tank, running it down on the opposite side from where you are going to work, and there fasten it securely to the beam under the platform to the other side.

Attach the riggings at the top of each

## WATER TOWER



stiff leg to the platform while working down the leg supports.

It takes considerable time and plenty of patience when working on a water tower.

A water tower one hundred and fifty (150) feet high with four stiff legs and the tank proper about twelve (12) feet in diameter by twenty (20) feet in height will require in the neighborhood of twenty-five (25) gallons of oil paint. It will take one man approximately four days and a half ( $4\frac{1}{2}$ ). It should not be difficult for you to secure about Three Hundred and Fifty (\$350.00) Dollars for a job of this kind.

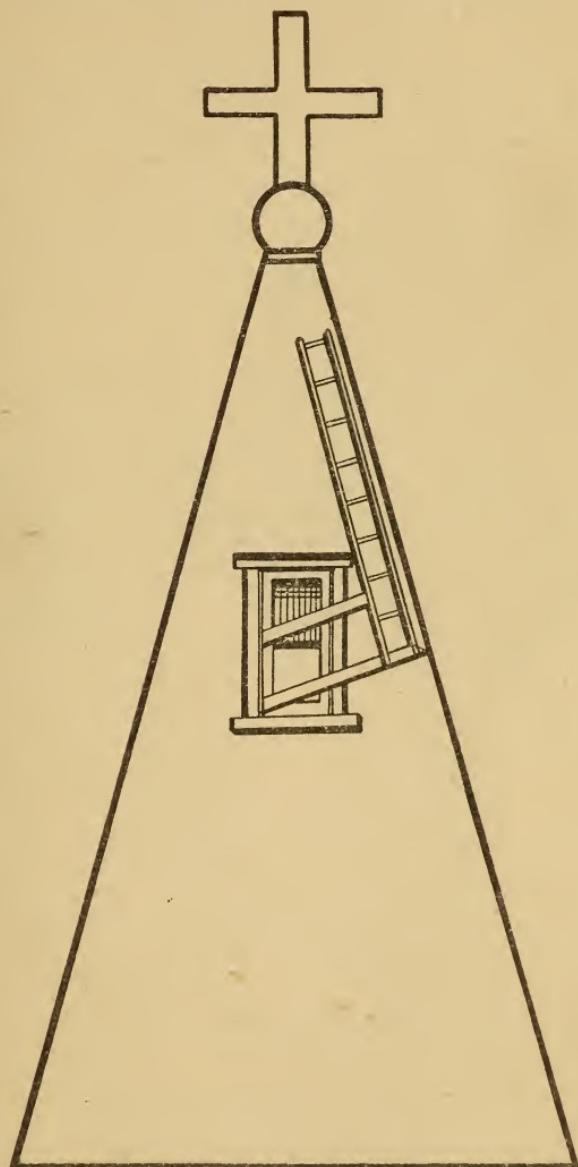
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## CHURCH SPIRES

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A tapering construction and not a hard job to rig after once tried. If you are capable of rigging a church spire, then it is an easy matter for you to rig a church dome or any other structure of that nature.

For the majority of church jobs an extension ladder is the handiest article. After drawing the extension ladder up to what is known to the Jack as the pigeon hole window in the church spire, build your platform from the window with 3x4 lumber, extending it out some six feet; lower a line down on both sides of the window, having your helper tie the two ends together around the lower section of the spire. Then by drawing it to the window you will have your first loop around the steeple. Place the extension ladder on the platform; nail two boards to the inside of the window, then attach other ends of boards to the ladder. Use all the safety devices available when going out on the ladder. Lash the ladder

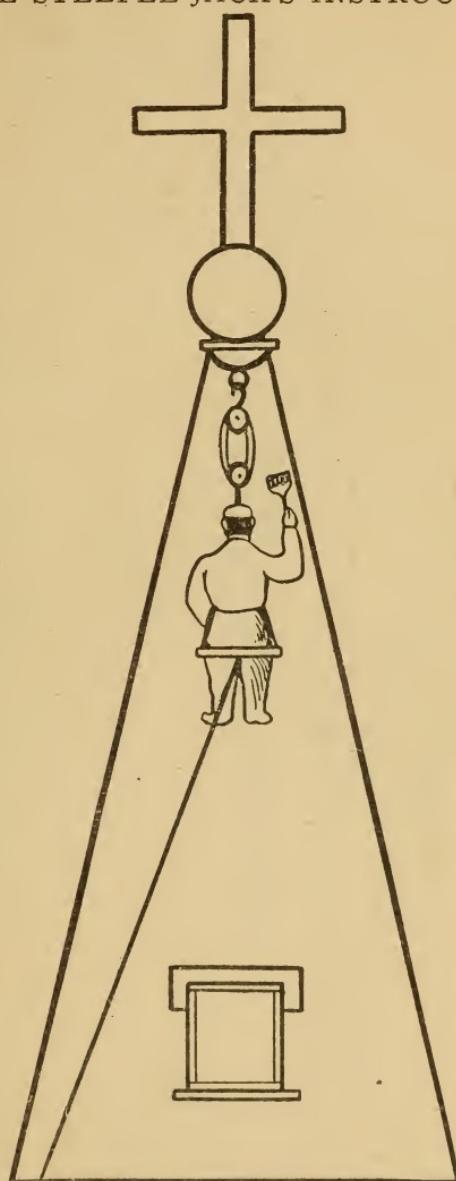


Showing Ladder Position from Pigeon-hole  
on Spire

wherever it is possible and also yourself by placing a line under the arms and tying the line that you have around the spire, working it up as far as you can go, then lash this to the ladder so as to keep the ladder from swaying to the left or right.

An extension ladder will bring you within a distance from which you can easily lasso the spire. Then by using the system already mentioned in the self-supporting stacks without ladders you will be in a position to accomplish any work you are on the spire for.

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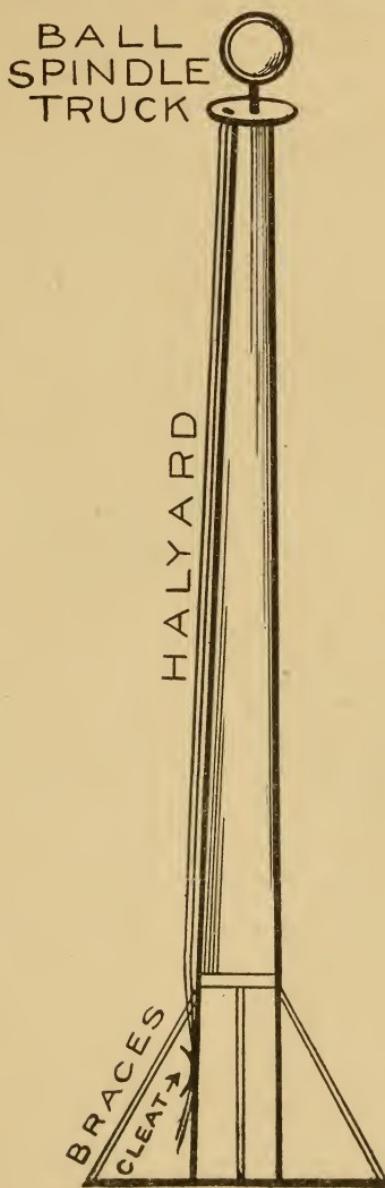
Showing Where Riggings Should  
Be Lashed at Top of Spire

## THE FLAGSTAFF

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Although the flagstaff is the most simple part of the Steeple Jack's work, at the same time it is the most dangerous. Before climbing a wooden pole look all around it first to see if any cracks are visible. In all probability there are, as most wooden poles are cracked. If the crack runs up and down then the pole is safe, unless it is dry rot, but if the crack runs crosswise on the pole watch your step. Chances are it will hold, but again it might not. Watch your step, because no one will watch it for you. Remember, a man can only fall once.

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## THE STAFF

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The flagpole is composed of the following parts: The pole ball, spindle, truck, sheave, cleat, brace and halyard.

The halyard is the rope with which the flag is drawn up to the top, and it is never used for climbing purposes. The art of climbing a flagpole with ease and performing that which is to be done upon the pole will be explained in detail later on.

The ball on the top of the staff plays no important part. It is used more for ornamental purposes than anything else.

The spindle is the rod that runs from the ball through the truck into the pole.

The truck holds the sheave.

The sheave holds the halyard.

The cleat is for the purpose of tying the halyard to a few feet from the base of the pole. The majority of poles have iron braces for support connected about six (6) feet up from the base of the pole.

From experience I find the steel pole the most dangerous. In my opinion it is

more dangerous than the wooden pole for the reason that rust forms inside of the steel pole and around the bands where it is connected, and in the winter time it is easily broken by the cold weather if any weight is put on it, whereas the wooden pole can be tested by sounding it as to its condition.

If the wooden pole has the dead sound it is in all probability dry rot, and with a pole of this kind I would advise you to be extremely careful. Never sway such a pole any more than you absolutely must, and take plenty of time in climbing it. A pole in this condition gives no warning before it breaks, but a pole with plenty of sap gives a cracking sound before it gives way, which gives the man working on it a chance to slide to a more secure position.

A boatswain chair and two slings are the only tools necessary to work on a flagpole. Take two slings made of at least  $\frac{1}{2}$ -inch line, splice an eye in the end of each sling—the eye being about two inches in diameter; place the sling

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Climbing Flagstaff  
With Slings

around the pole, drawing the end opposite from the eye through the eye; do likewise with the other sling; tie the boatswain chair to the top sling, allowing five inches from the rope of the boatswain chair to the eye of the sling; tie a loop in the end of the lower sling—tying a bow-line knot. This is called a stirrup. Leave the same distance from eye to knot as from the chair to the knot. Get into the boatswain chair.

The first thing to do is to see that the loop around the pole is as tight as it will go. Then place your foot in the stirrup, take hold of the pole to steady yourself, raise up in the stirrup, and with the right hand push the sling holding the chair up, again making the sling tight to the pole. Sit down in the chair, reach down and pull the stirrup sling up until you can get your foot in. Repeat these movements and you will see how simple it is to climb without exerting yourself.

At every movement going up and coming down make sure that the sling that holds the chair is secure and thereby pre-

vent it from slipping down. Should it be loose and slip down and your foot in the stirrup, the result would undoubtedly be that you would be dangling in the air head down. Avoid all of this by taking every precaution.

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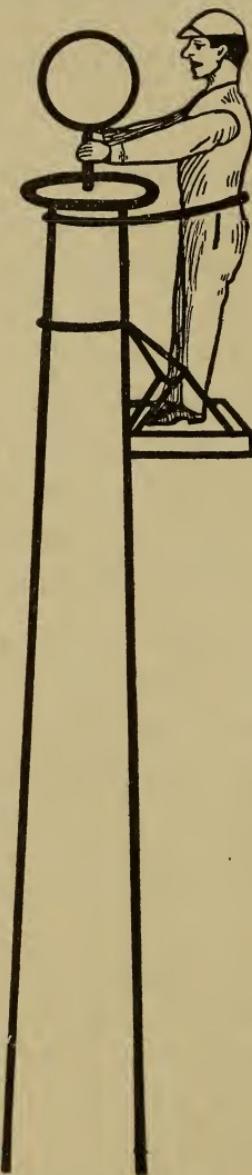
## TOP OF POLES

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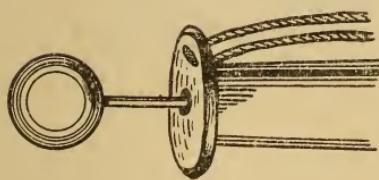
At any time you are working on a flagpole and the work consists of replacing a truck, ball or spindle, the only thing to do is to make sure of the pole being solid enough for a little swaying. If so, take a sling, lash yourself to the pole under the arms as a back brace, then reach up and pull yourself up and stand in the chair. Avoid shaking the pole as much as you possibly can. Then draw up the saw.

Saw off about one foot of the top, take a brace and bit, drill the holes, chip off around the edges and set your new truck on. The spindle should be set about from 8 to 10 inches down in the pole, then wedge in with small sticks to make it solid.

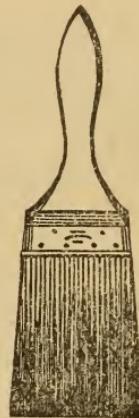
In painting a flagpole use the halyard to hold your paint. Twist the rope several times to keep it at the same distance as yourself. In painting a pole work down as you work up.



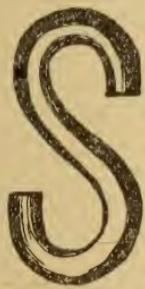
Working the Top  
of a Flagstaff



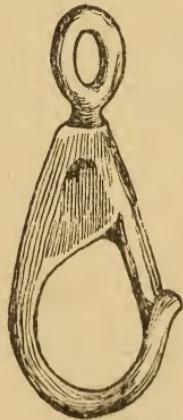
Top of Flagstaff



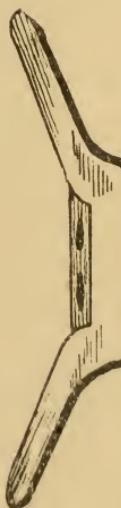
Five-inch Brush Is Mostly Used by  
Steeple-Jacks



S Hook Used for Tripping Purpose

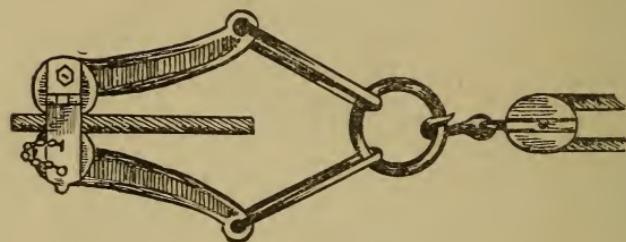


Swivel Snap

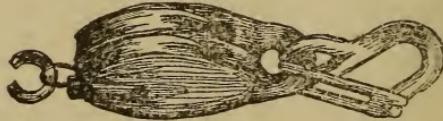


Cleat

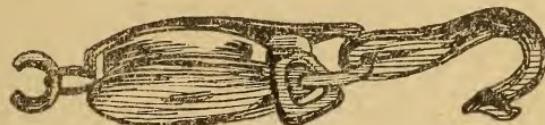
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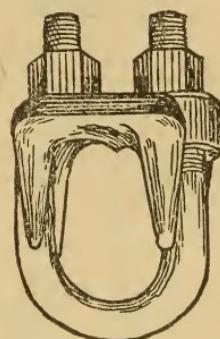
Come-along Used for Tightening Guy Wire



Double Steel Ball-bearing Block Is  
Preferred by the Stack Man



Single Steel Block



Clip



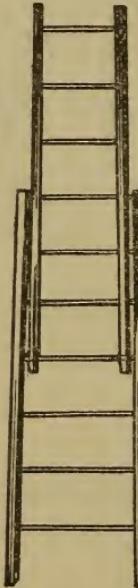
Guy Wire with Clips



Turn-buckle



Gimblet Block



Extension Ladder

PRICES TO CHARGE FOR WORK

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Prices vary in the different parts of the country, so it is really difficult for me to give you exact pointers on that, but we will take for an example a smokestack one hundred and fifty feet (150) feet high, six (6) feet in diameter, in six sections of the United States. These prices are figured on the basis as follows (the firm or individual for whom you are doing the job is to furnish the paint under these prices):

New York, N. Y.....	\$130.00
Chicago, Ill.....	170.00
Denver, Colo. ....	170.00
San Antonio, Tex.....	140.00
New Orleans, La.....	135.00
San Francisco, Cal.....	130.00

The following prices are used as to flagstaffs sixty (60) feet high:

New York, N. Y.....	\$35.00
Chicago, Ill.....	40.00
Denver, Colo. ....	40.00
San Antonio, Tex.....	35.00

New Orleans, La.....	35.00
San Francisco, Cal.....	35.00

With reference to forty (40) foot staffs,  
use the following schedule:

New York, N. Y.....	\$25.00
Chicago, Ill.....	30.00
Denver, Colo. ....	30.00
San Antonio, Tex.....	25.00
New Orleans, La.....	25.00
San Francisco, Cal.....	25.00

As above stated, these are not standard  
prices, but it is safe for you to quote your  
prices along these lines.

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## NAMES OF KNOTS, BENDS, IGHTS AND HITCHES

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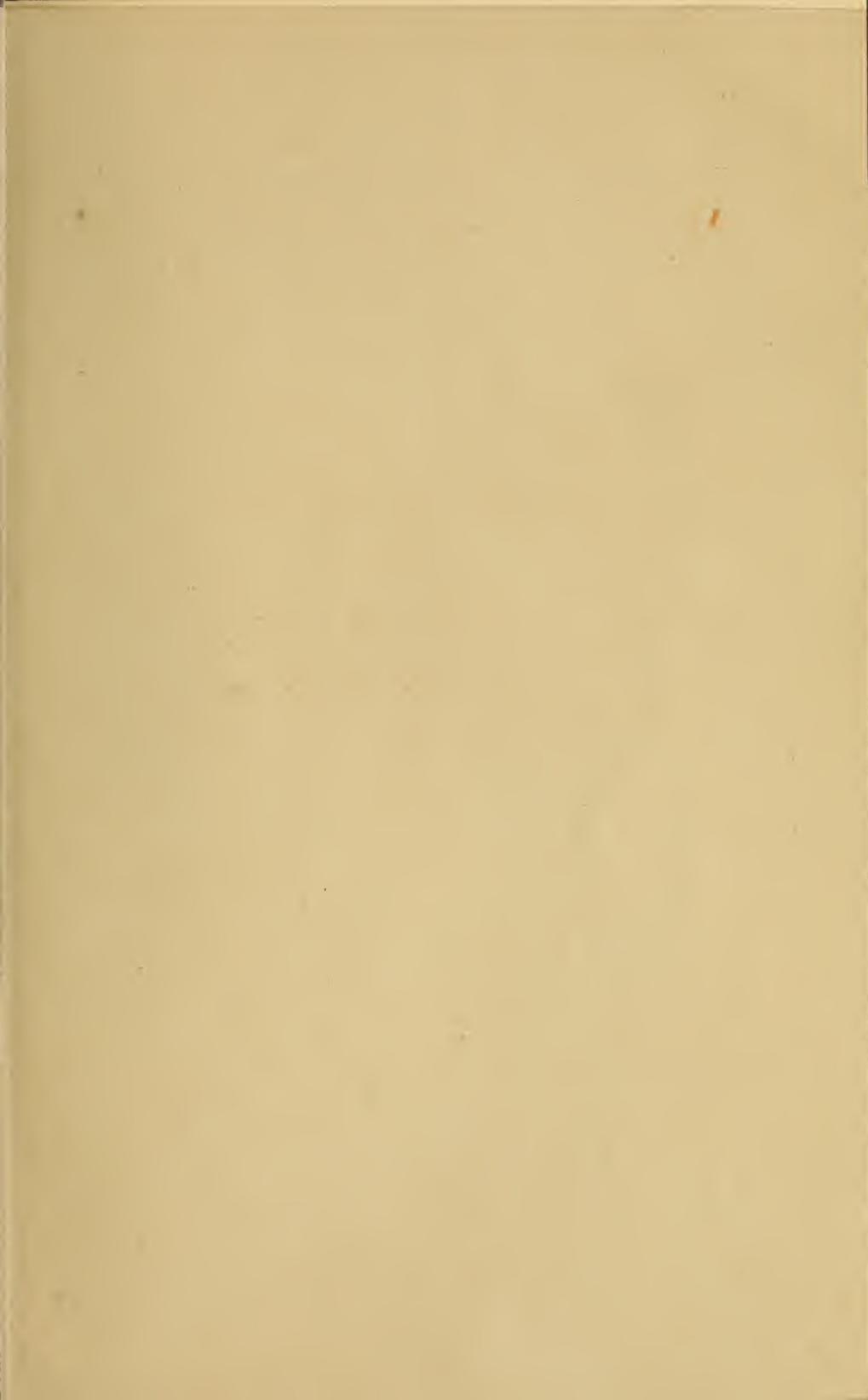
Black Wall Hitch	Double wall and crown
Bow Knots	
Bow-line	Eye splice
Bow-line on bight	Figure-eight knot
Bow shortening	Fisherman's hitch
Builders' hitch	Fisherman's knot
Builders' knot	Fivefold knot
Butchers' knots	Flemish eye
Catspaws	Fourfold knot
Chain hitch	French shroud knot
Chain knots	Gaff-topsail halyard bend
Clinches	
Close band	Garrick bend
Clove hitch	Gordian knot
Crown knots	Granny knot
Cuckolds' necks	Gunner's knot
Deadeyes	Half-hitch
Dogshanks	Half-hitch and seizing
Double chain	
Double crown	Half-hitch
Double figure-eight	Hawser hitch
Double knots	Hawsers
Double wall	Hitches

Larks' heads	Simple hitch
Magnus hitch	Simple knots
Manrope knot	Sixfold knot
Matthew Walker knot	Slip knots
Midshipmen's hitch	Slippery hitch
Mooring knots	Square knots
Open-hand knot	Stopper knot
Ordinary knot	Threefold knot
Overhand knot	Throat seizing
Pier bend	Timber hitch
Reef knot	Tomfool knot
Reefing knots	Treble knot
Roband hitch	Turks' caps
Rolling hitch	Turks' heads
Running bow-line	Twist knot
Running knot	Wall knots
Sailors' knots	Waterman's knot
Sheepshanks	Weavers' knot
Short splice	Wedding knot
Shroud knots	Whipping
	Wind knots

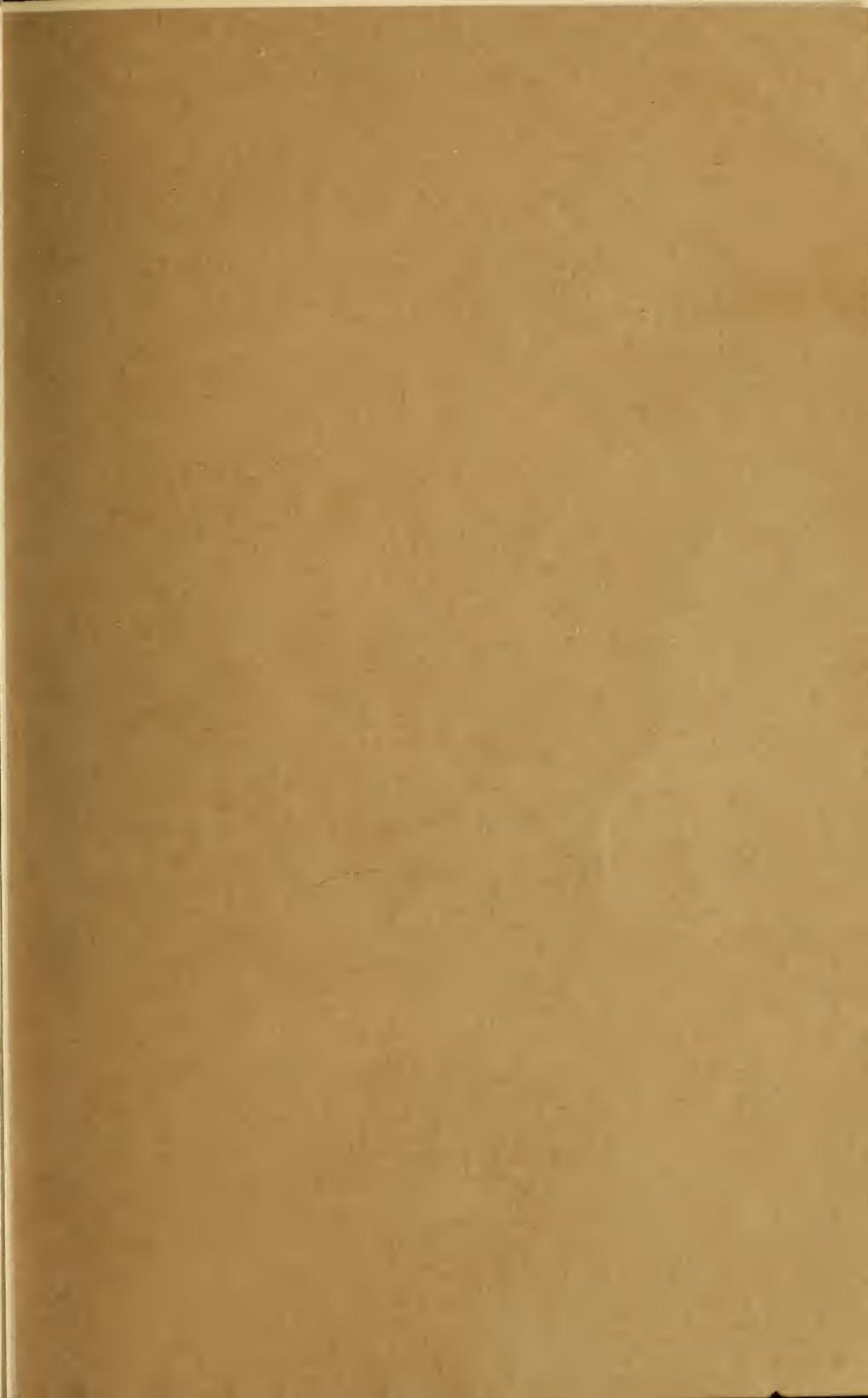
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THE END

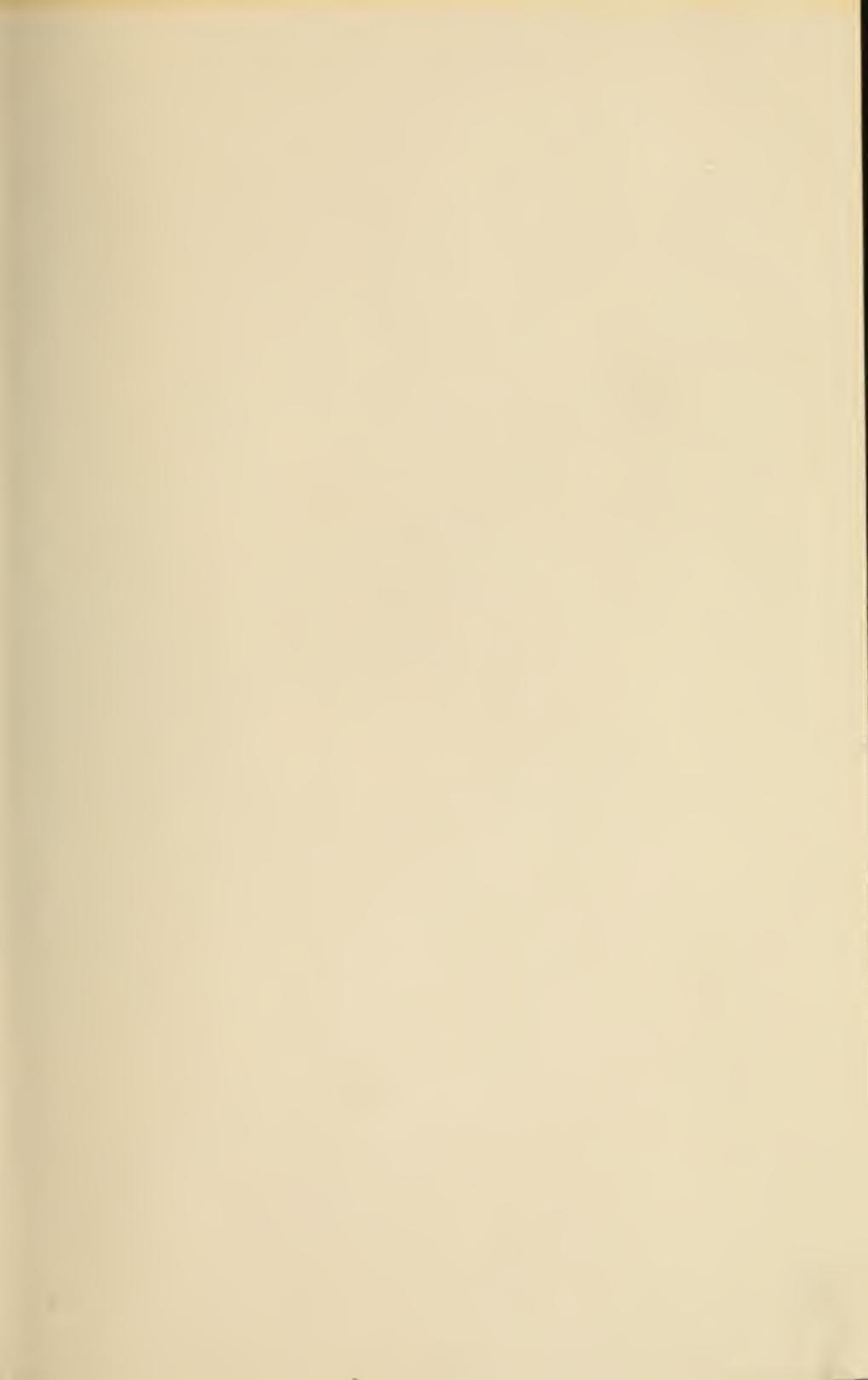




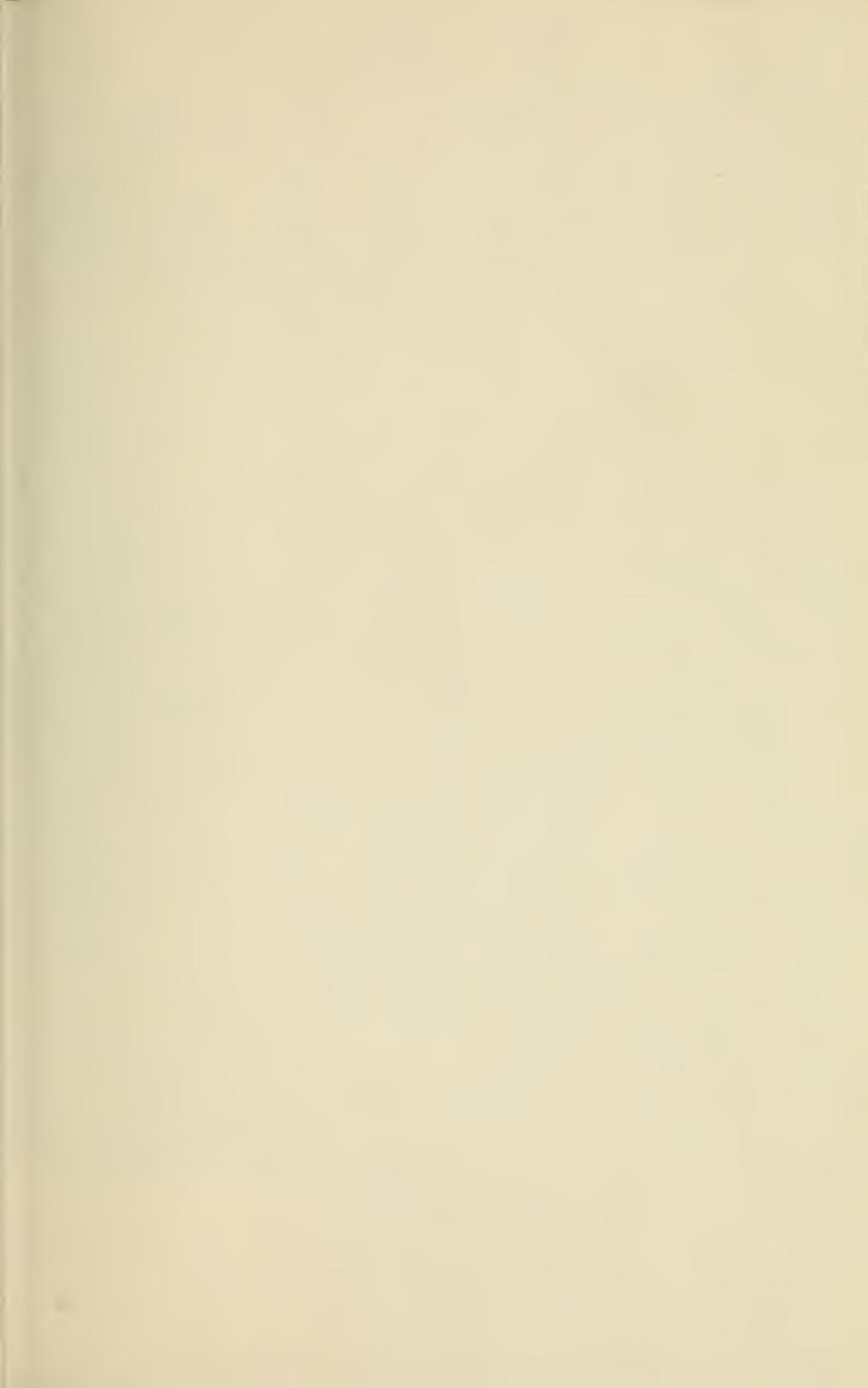




The  
**Steeple-Jack's  
Instructor**







Deacidified using the Bookkeeper process.  
Neutralizing agent: Magnesium Oxide  
Treatment Date: Aug. 2003

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